



LÄKARE MOT KÄRNVAPEN

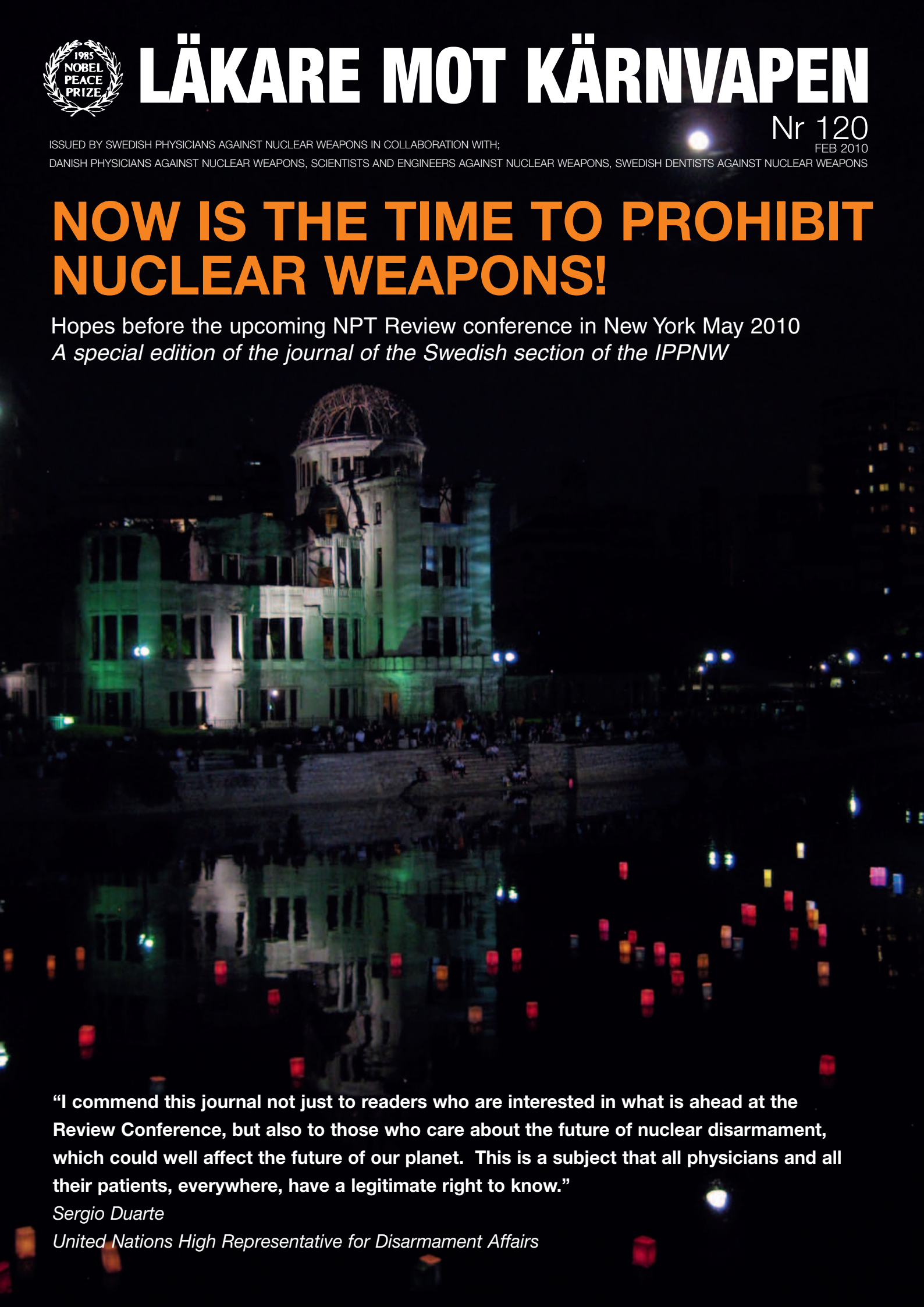
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ISSUED BY SWEDISH PHYSICIANS AGAINST NUCLEAR WEAPONS IN COLLABORATION WITH;

DANISH PHYSICIANS AGAINST NUCLEAR WEAPONS, SCIENTISTS AND ENGINEERS AGAINST NUCLEAR WEAPONS, SWEDISH DENTISTS AGAINST NUCLEAR WEAPONS

NOW IS THE TIME TO PROHIBIT NUCLEAR WEAPONS!

Hopes before the upcoming NPT Review conference in New York May 2010
A special edition of the journal of the Swedish section of the IPPNW



“I commend this journal not just to readers who are interested in what is ahead at the Review Conference, but also to those who care about the future of nuclear disarmament, which could well affect the future of our planet. This is a subject that all physicians and all their patients, everywhere, have a legitimate right to know.”

Sergio Duarte

United Nations High Representative for Disarmament Affairs

IN THIS ISSUE

Since the Nuclear non-Proliferation Treaty entered into force in 1970, the parties have met regularly to review the treaty under the auspices of the UN, with more or less success. The 2000 NPT RevCon turned out an unexpected success, ending in an agreement with thirteen practical steps towards fulfilling Article VI of the treaty. A hope for non-proliferation and nuclear disarmament was created. But alas, the hope was quenched by the complete failure of the 2005 NPT RevCon! Henrik Salander, in his article “Reaching Nuclear Disarmament – from Visions to Reality”, discusses this and what hopes there may be for the 2010 RevCon. And the 2010 RevCon is also the main reason for this special issue of our journal. Civil society must engage to put pressure on governments before the NPT RevCon to make it a success. Our ambition is to deliver a package of high quality articles on nuclear weapons issues to be used in lobbying and discussions with politicians and other decision makers. Please read also Ray Acheson on what you can do from your home for the NPT and for nuclear disarmament.

The outlawing of nuclear weapons by a Nuclear Weapons Convention might seem a naive and unrealistic idea. Hans

Corell, former Legal Counsel of the UN, thinks differently. From a legal point of view it is feasible albeit complex to negotiate a convention prohibiting nuclear weapons. And the necessary legal expertise is there — it is only a question of political will. Actually there is already a Model Convention available, “drafted by a team that included lawyers, scientists, political analysts and former diplomats” as writes Merav Danan in her article “The irresistible logic of a Nuclear Weapons Convention”. She was one of the main contributors to the Model NWC, published in 1997.

Do nuclear weapons give safety? This is certainly an argument for keeping the weapons often heard from nuclear possessors. Peace researcher Peter Wallensteen explains why this is not true; as an example he discusses the relations between India and Pakistan which have not improved since 1998 when they both performed nuclear tests. Read the article – it is interesting and, indeed, important.

Nuclear winter – we have heard it before. In the 1980s there was much talk about the catastrophic climate consequences of an all out nuclear war. New research now tells us more: even a regional nuclear war, using a tiny frac-

tion of total world arsenals, would result in a decrease of global temperature and the death of as much as one billion people, mainly due to starvation. These appalling facts are presented to us by Steven Starr, a highly qualified specialist in the field.

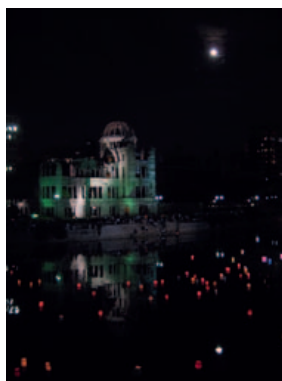
Spreading the knowledge about nuclear weapons is important but not easy. The Swedish section of IPPNW has created a web based education tool, now available in Swedish, English and Norwegian: www.learnaboutnukes.org

Nuclear bomb or nuclear power, which one came first? And which is the connection between these two intertwined phenomena? Stefan Björnson from the Swedish Scientists and Engineers against Nuclear Arms explains to us.

Claes Andreasson is an independent public radio producer based in Los Angeles who regularly gives us updated articles on nuclear issues as seen from the US horizon. In this number he gives us the history of Missile Defence: “To hit a bullet with a bullet”.

Finally, try the nuclear quiz on the back-cover. After reading the journal it should not be all that difficult. Sorry, no prizes given except your own satisfaction!

Ulf König, Jan Larsson



*Front cover:
Hiroshima on
August 6, 2009:
tens of thousands of
peace lanterns on
river Ota
Photo: Wenjing Tao*

From the editors

The editors wish to thank John Loretz and Wendi Berman for English proofreading.
Jan Larsson, Ulf König, Josefin Lind



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LÄKARE MOT KÄRNVAPEN is a quarterly journal published by the organization *Svenska Läkare mot Kärnvapen (SLMK)*, the Swedish affiliate of *International Physicians for the Prevention of Nuclear War (IPPNW)*. SLMK has 3 000 physicians and medical students as members and IPPNW consists of about 150 000 physicians in approximately 50 countries all over the world. SLMK and IPPNW is a non-partisan organization and is based on voluntary work. Through raising opinion and dialogue with decision makers we promote what most people want to achieve – a nuclear free world. IPPNW is based in Boston and is led by three co-presidents.

Foreword

Twenty-four years have now passed since Dr. Yevgeny Chazov and Dr. Bernard Lown received the Nobel Peace Prize on behalf of the International Physicians for the Prevention of Nuclear War (IPPNW). By many indicators, the world has clearly been moving away from nuclear weapons ever since.

Stockpiles of such weapons have reportedly been dropping considerably—though the key word here is “reportedly”, since these reductions have only been declared, but not internationally verified, and the world does not know the extent that these reductions may be reversible. To the applause of world public opinion, Presidents Dimitry Medvedev and Barach Obama have repeatedly and publicly affirmed their commitment to pursue a world free of nuclear weapons.

And as the stockpiles of the Russian Federation and the United States have been falling, China, France, and the United Kingdom have also taken various steps away from such weapons—including such actions as shutting down nuclear test sites, ceasing production of fissile material for weapons, and eliminating certain types of nuclear-weapon delivery systems, to name only a few such steps.

Yet today, some 64 years after the UN General Assembly first identified the goal of eliminating all nuclear weapons—and 40 years after the Nuclear Non-Proliferation Treaty (NPT) entered into force—over 20,000 such weapons reportedly remain. Some are on hair-trigger alert. Some are deployed in other countries. Some are being improved or modernized. And all states with such weapons continue to maintain some version of the doctrine of nuclear deterrence.

In addition, no multilateral negotiations on nuclear disarmament are underway; the Comprehensive Nuclear-Test-Ban Treaty has not entered into force; and significant hurdles remain to be overcome before negotiations can begin on a fissile material treaty. And several nuclear disarmament resolutions in the UN General Assembly remain the subject of deeply divided votes.

Such are the contrasting circumstances that the NPT States Parties are facing as they prepare for the Treaty’s Review Conference next May. Yes, progress has been made. But yes, the NPT is still facing significant challenges ahead in strengthening all of its key pillars: nuclear disarmament; non-proliferation; and the peaceful uses of nuclear energy.

The eleven excellent essays in this special edition of the journal of the Swedish section of the IPPNW help the public to understand both the urgency for progress in nuclear disarmament and the obstacles that still stand in the way of such progress. I commend this journal not just to readers who are interested in what is ahead at the Review Conference, but also to those who care about the future of nuclear disarmament, which could well affect the future of our planet. This is a subject that all physicians and all their patients, everywhere, have a legitimate right to know.



New York, 27 January 2010

Sergio Duarte

United Nations High Representative for Disarmament Affairs

LEARN ABOUT NUCLEAR WEAPONS

Learn about Nuclear Weapons is a web-based education tool from the Swedish Physicians against Nuclear Weapons. It is available in Swedish, English and Norwegian:

www.learnaboutnukes.org

Learn about Nuclear Weapons is divided into 17 topics, covering the issue of nuclear weapons and disarmament from several angles. Here you find information about the history of nuclear weapons; about the science behind it; about international law, treaties and organizations; about medical and psychological consequences of nuclear weapons; about political and financial aspects of nuclear weapons; about who possess nuclear weapons; about environmental effects of these weapons and about ethical and religious reasoning around nuclear weapons. Each section can be read as a freestanding part that you can study according to your own interest. All chapters consist of a basic level and of several in-depth articles that give you more information. Here you will find a list of all acronyms and abbreviations used in the chapters, and a list of links to international organisations working with nuclear disarmament issues. You can also find movies, work shop materials, exercises etc. If you are interested in doing something for disarmament yourself, you will find a lot of information on how to go along. One section offers tips and materials for teachers and educators who wish to teach about nuclear weapons and disarmament issues – *Learn abolition*.

Learn about Nuclear Weapons is owned by the Swedish Physicians against Nuclear Weapons and the Swedish Peace and Arbitration Society. The first edition of the web based material was launched in 2002. Frida Blom was the principal author. The new version of *Learn about Nuclear Weapons* was developed by Alexandra Sundberg and launched in summer 2008. Feel free to use any information contained in *Learn about Nuclear Weapons*, but always remember to refer to the source.

Josefin Lind



Josefin Lind is Information manager, Swedish section of International Physicians for the Prevention of Nuclear War.

LEARN ABOUT NUCLEAR WEAPONS 2008

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SWEDISH PEACE AND ARBITRATION SOCIETY

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IS IT POSSIBLE TO OUTLAW NUCLEAR ARMS?

Hans Corell



Hans Corell was the Legal Counsel of the UN 1994-2004. In 1972-1984 he served in the Ministry of Justice, the last three years as Chief Legal Officer. He was Ambassador and Head of the Legal Department of the Ministry for Foreign Affairs 1984-94. Homepage: <http://www.havc.se>

“A key challenge is to dispel the perception that outlawing nuclear weapons is a utopian goal.”

Weapons of Mass Destruction Commission

In 2003 the Swedish Government established the Weapons of Mass Destruction Commission. It was composed of a team of highly qualified and experienced commissioners from all over the world, led by Hans Blix. In 2006, the Commission issued its report “Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms”. The line quoted above is one of the conclusions in the report.

This brief contribution examines the possibilities of outlawing nuclear weapons from two viewpoints: the legal and the political perspective.

The legal perspective

As a point of departure we must recognize that there is no treaty banning nuclear arms. Nevertheless, you may wonder whether they are legal.

The most authoritative response to this question is the advisory opinion that the International Court of Justice – the principal judicial organ of the United Nations – issued on 8 July 1996.

The question put to the Court by the General Assembly was: “Is the threat or use of nuclear weapons in any circumstances permitted under international law?”

The most salient elements in the opinion are that:

- There is in neither customary nor conventional international law¹ any specific authorization of the threat or use of nuclear weapons (unanimously);

- There is in neither customary nor conventional international law any comprehensive and universal prohibition of the threat or use of nuclear weapons as such (by eleven votes to three);

- A threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4, of the United Nations Charter and that fails to meet all the requirements of Article 51 [the right to self-defence], is unlawful (unanimously);

- A threat or use of nuclear weapons should also be com-

patible with the requirements of the international law applicable in armed conflict, particularly those of the principles and rules of international humanitarian law, as well as with specific obligations under treaties and other undertakings which expressly deal with nuclear weapons (unanimously).

The Court also stated the following (by seven votes to seven, by the President’s casting vote):

It follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law;

However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake;

For our purposes, however, it is of particular interest to note the unanimous statement by the Court that there exists “an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”

The question is then whether the formulation of an agreement on nuclear disarmament including a provision on outlawing them would be complex from a legal point of view. The answer is that such a treaty would entail a number of complex provisions relating mainly to verification and control. But these are difficulties that should be relatively easy to resolve; there are many experts in this field who can advise the contracting states.

There are as a matter of fact treaties that can serve as models for the core element in an agreement on nuclear arms, the outlawing. By way of example could be mentioned:

- The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and

¹ Customary international law is developed through state practice. By generally and consistently following certain practices based on a sense of legal obligation, states develop norms that are considered binding on all states. Conventional international law derives from international agreements (such as the NPT) that are binding on the contracting parties. Customary law and conventional law are the primary sources of international law.

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Toxin Weapons and on Their Destruction, 1972 (155 parties);
- The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, 1992 (188 parties); and

- The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, 1997 (156 parties)

These conventions contain very similar provisions to the effect that each state party to the respective convention undertakes never under any circumstances to develop, produce, stockpile or otherwise acquire or retain the weapons regulated by the treaty. The same technical solution could be used in a convention outlawing nuclear arms.

Proposals to this end have also been advanced. As an example could be mentioned **Securing Our Survival (SOS): The Case for a Nuclear Weapons Convention**. This 2007 publication contains an elaborate Model Nuclear Weapons Convention, proposed by the International Association of Lawyers Against Nuclear Arms, the International Network of Engineers and Scientists Against Proliferation and International Physicians for the Prevention of Nuclear War.

From a legal perspective negotiating a treaty outlawing nuclear arms would therefore not present problems that cannot be overcome. As a matter of fact, there are already models that could be used for this purpose. The obstacles that so far have prevented the conclusion of such a treaty are therefore not of a legal nature.

The political perspective

It is obvious that a treaty outlawing nuclear arms cannot be negotiated unless there is political support for the idea. An analysis of the question from this angle produces a very complex picture.

A treaty of this nature would obviously have to be negotiated under the auspices of the **United Nations**. An analysis of relevant UN documents demonstrates that there is broad support for the idea that nuclear arms should be outlawed.

In the wake of the advisory opinion of the International Court of Justice, the **General Assembly** has adopted yearly resolutions, the latest on 2 December 2009 (A/RES/64/55), in which the Assembly underlines the unanimous conclusion of the Court that there exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.

Most importantly, the General Assembly calls upon “all States immediately to fulfil that obligation by commencing multilateral negotiations leading to an early conclusion of a nuclear weapons convention prohibiting the development, production, testing, deployment, stockpiling, transfer, threat or use of nuclear weapons and providing for their elimination.”

The **Security Council** with its five permanent members, all of them nuclear-weapon states, has also adopted resolutions in the same vein. Suffice it in this context to refer to the Security

Council Summit and its resolution 1887 (2009) Maintenance of international peace and security: Nuclear non-proliferation and nuclear disarmament, adopted on 24 September 2009.

This resolution takes as a point of departure the Treaty on the Non-Proliferation of Nuclear Weapons, 1968 (the NPT Treaty). The Council is resolved to seek a safer world for all and to create the conditions for a world without nuclear weapons, in accordance with the goals of the NPT, in a way that promotes international stability, and based on the principle of undiminished security for all.

In particular, the resolution calls upon the parties to the NPT, pursuant to Article VI of the treaty, to undertake to pursue negotiations in good faith on effective measures relating to nuclear arms reduction and disarmament, and on a treaty on general and complete disarmament under strict and effective international control. All other states are called upon to join in this endeavour.

This brings us to the question of the manner in which the nuclear-weapon states fulfil the commitment that they have undertaken in Article VI of the NPT:

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

The argument is often made by many states and certainly by members of civil society that the nuclear-weapon states that are party to the NPT expect other parties to the treaty to fulfil their obligations under the NPT, while they do not themselves make serious efforts in accordance with their undertaking in Article VI. This could be seen as another example of the double standards that the permanent five members of the UN Security Council sometimes apply.

Furthermore, there are three de facto nuclear-weapon states that are not bound by the NPT. A major problem here is that these states are in fact increasing their nuclear arsenals.

Against this background it is interesting to note the latest development under **the new US administration**. In an address in Prague on 5 April 2009, President Barack Obama made the following commitment:

So today, I state clearly and with conviction America’s commitment to seek the peace and security of a world without nuclear weapons. I’m not naive. This goal will not be reached quickly – perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, “Yes, we can.”

In his Nobel Lecture in Oslo on 10 December 2009, President Obama also addressed the issue of nuclear weapons:

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One urgent example is the effort to prevent the spread of nuclear weapons, and to seek a world without them. In the middle of the last century, nations agreed to be bound by a treaty whose bargain is clear: All will have access to peaceful nuclear power; those without nuclear weapons will forsake them; and those with nuclear weapons will work towards disarmament. I am committed to upholding this treaty. It is a centerpiece of my foreign policy. And I'm working with President Medvedev to reduce America's and Russia's nuclear stockpiles.

Reference must also be made to the **many initiatives by states and non-governmental organizations** in the field of disarmament:

By way of example, reference can be made to the **Canberra Commission**, convened by the Government of Australia. In 1996, the Commission issued a report on practical steps towards a nuclear-free world.

This was followed by the efforts of the **New Agenda Coalition (NAC)**, formed by Brazil, Egypt, Ireland, Mexico, New Zealand, Slovenia, South Africa and Sweden. A Joint Declaration in June 1998 by the Ministers for Foreign Affairs of these countries called upon the nuclear-weapon states and the three nuclear-weapons-capable states to make a clear commitment to the speedy, final and total elimination of their nuclear weapons and nuclear weapons capability.

This paved the way for so called **Thirteen Practical Steps** for the implementation of Article VI, which was adopted by the 2000 NPT Review Conference.

In the meantime the **Tokyo Forum for Nuclear Non-Proliferation and Disarmament** had issued its report on 25 July 1999.

Sadly, the development over the next several years went in the wrong direction. **The 2005 NPT Review Conference was a failure** and the famous **World Summit** in September of the same year² does not even contain the words weapons of mass destruction.

In its report in 2006, the **Weapons of Mass Destruction Commission** made a number of detailed recommendations relating to nuclear disarmament. In this context Recommendation 30 is of particular significance:

All states possessing nuclear weapons should commence planning for security without nuclear weapons. They should start preparing for the outlawing of nuclear weapons through joint practical and incremental measures that include definitions, benchmarks and transparency requirements for nuclear disarmament.

Among the non-governmental organizations, reference can be made to the **Middle Powers Initiative (MPI)**, dedicated to the worldwide reduction and elimination of nuclear weapons. The MPI brings together eight international non-governmental organizations, among them International Physicians for the Prevention of Nuclear War, to work primarily with "middle power" governments to encourage and educate the nuclear weapons states to take immediate practical steps that reduce nuclear dangers, and commence negotiations to eliminate nuclear weapons.

In particular, reference should be made to the efforts by the MPI within the framework of the Article VI Forum established after the failure of the 2005 NPT Review Conference. Recommended reading is also the MPI Briefing Paper: "Making Good on the Promises: From the Security Council Summit to the 2010 NPT Review", which contains an excellent analysis of these events and a number of recommendations.

The Final Communiqué on 27 June 2008 of the **InterAction Council of Former Heads of State and Government**³ contains a number of recommendations. Among them are the following two that have a direct bearing on our topic:

- Acknowledging that the challenges mankind faces must be addressed through multilateral solutions within a rule-based international system;

- Accepting the vision of a nuclear weapon free world and urging the nuclear weapon possessing powers to take the lead in a renewed effort in the disarmament process by phasing out nuclear arsenals and avoiding the development of new systems that would instigate a renewed arms race;

The 2009 Final Communiqué contains further recommendations in relation to nuclear disarmament.

These are **just a few examples of the many efforts** that have been made and are made in the pursuit of ridding the world of nuclear arms. Many others are engaged in this work, including several non-governmental organizations and prominent politicians in their personal capacity.

Conclusions

Against this background one must ask the question why it is so difficult to create the momentum where states can come together to negotiate a treaty outlawing nuclear arms. Many of the actors referred to in the foregoing seem to be of the view so clearly formulated by the Weapons of Mass Destruction Commission. Disarmament and non-proliferation are best pursued through a cooperative rules-based international order,

² The 2005 World Summit in September 2005 was a follow-up summit meeting to the UN 2000 Millennium Summit.

³ The InterAction Council of Former Heads of State and Government was established in 1983 as an independent international organization to mobilize the experience, energy and international contacts of a group of statesmen who have held the highest office in their own countries. Council members jointly develop recommendations on, and practical solutions for the political, economic and social problems confronting humanity. The Council aims at fostering international cooperation and action in three priority areas: peace and security, world economic revitalization, and universal ethical standards.

PROHIBITING NUCLEAR WEAPONS

applied and enforced through effective multilateral institutions, with the UN Security Council as the ultimate global authority.

This is definitely how I see the situation from my perspective. The Security Council holds the key to any success in the endeavour to rid the world of nuclear arms.

As a matter of fact, this is just one aspect of the role that the UN Security Council could play if all its members clearly demonstrated that they are prepared to respect international law and apply the same standard to all including themselves. Surely, this is what we have the right to expect from the members of the body to which the UN Charter assigns the primary responsibility for the maintenance of international peace and security!

It is obvious that there are great problems that have to be tackled by the world community in the future, generated by climate change, globalisation, possible overpopulation, poverty, disease, terrorism. These phenomena constitute serious threats to international peace and security. The only way in which they can be managed is by establishing a just rule of law both at the national and international level.

In another context I have expressed the opinion that the way in which the members of the Security Council, and in particular the permanent members of the Council, conduct themselves will be the determining factor in what must be a global effort to establish the rule of law. Therefore, the permanent members must now lead the way by fully respecting their obligations and bow to the law.

However, in order to make this happen it is important that civil society engages itself even more actively in convincing those who make the decisions in capitals that this is the only way ahead. It is in this context that the argument should be made that the existing arsenal of nuclear arms poses a tremendous threat to all humankind.

After World War II, states that possess nuclear arms have so far refrained from using them. But who knows how long this will last? And then there is the additional risk if nuclear arms come into the hands of terrorists. If this happens, we cannot count on the restraint demonstrated so far by states. Terrorists will simply use the arms. Seen in this perspective there is no other way ahead if we want to protect ourselves and our planet as a habitat for human beings than to see to it that nuclear arms are outlawed and destroyed. Let us hope that the 2010 NPT Review Conference will be a step in the right direction!

Links to documents referred to

Advisory opinion that the International Court of Justice issued on 8 July 1996

<http://www.icj-cij.org/docket/files/95/7495.pdf>

General Assembly resolution A/RES/64/55 of 2 December 2009

<http://daccess-dds-ny.un.org/doc/UNDOC/LTD/N09/565/50/PDF/N0956550.pdf?OpenElement>

Security Council resolution 1887 (2009)

<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf>

Treaty on the Non-Proliferation of Nuclear Weapons, 1968

<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf>

Securing Our Survival (SOS): The Case for a Nuclear Weapons Convention <http://www.icanw.org/securing-our-survival>

Remarks by President Barack Obama, Prague, 5 April 2009

http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/

Nobel Lecture by Barack H. Obama, Oslo, 10 December 2009

http://nobelprize.org/nobel_prizes/peace/laureates/2009/obama-lecture_en.html

Declaration by New Agenda Coalition

<http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G98/624/76/IMG/G9862476.pdf?OpenElement>

Tokyo Forum for Nuclear Non-Proliferation and Disarmament

<http://www.mofa.go.jp/POLICY/un/disarmament/forum/tokyo9907/index.html>

The Thirteen Practical Steps

<http://www.un.org/disarmament/WMD/Nuclear/2000-NPT/pdf/FD-Part1and2.pdf>

Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms

http://www.wmdcommission.org/files/Weapons_of_Terror.pdf

Middle Powers Initiative

<http://www.middlepowers.org/index.html>

InterAction Council of Former Heads of State and Government

<http://www.interactioncouncil.org/sessions/communique/s26.pdf>

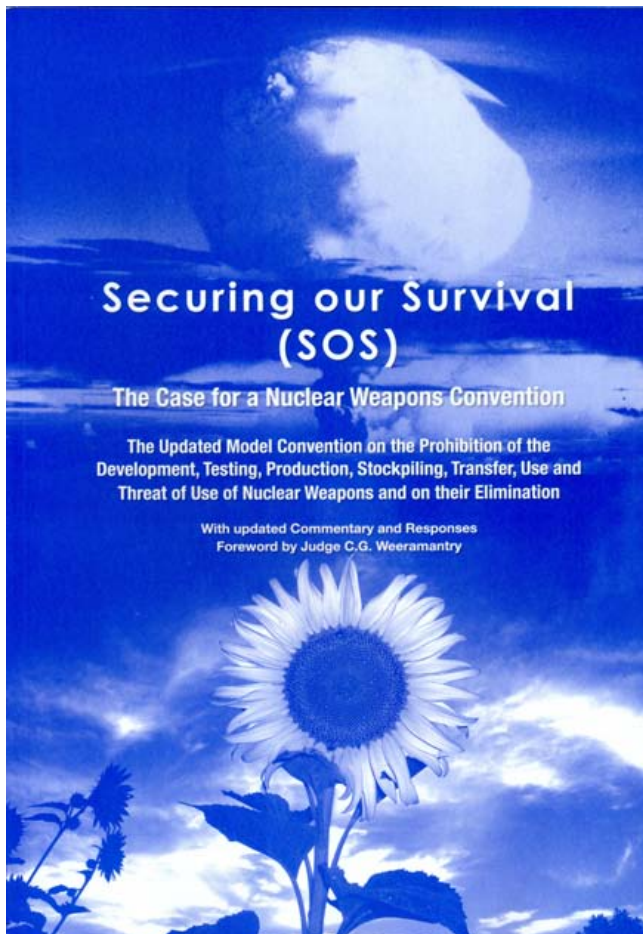
THE IRRESISTIBLE LOGIC OF A NUCLEAR WEAPONS CONVENTION

Merav Datan



Merav Datan is an international lawyer and a board member of Lawyers' Committee on Nuclear Policy. She is the principal drafter of the Model Nuclear Weapons Convention released in 1997 (revised 2007).

The political goal of a Nuclear Weapons Convention (NWC) has become clearer and closer over the past decade. The concept of a treaty prohibiting nuclear weapons and setting out a framework for their elimination has been promoted and debated for over a dozen years now. Counter-arguments to the calls for negotiations on such a treaty — or a framework of inter-locking agreements — have characterized the goal as idealistic, unrealistic, and premature.



But times have changed since the concept of an NWC and calls for negotiations towards such a treaty first emerged. The change over time in reactions to the model NWC that was introduced in 1997 reflects this shift. This model, drafted by a team that included lawyers, scientists, political analysts and former diplomats, was warmly received by some. In fact it was a response to demands for such a model. But the notion of

such a treaty was dismissed as premature and idealistic by others, including disarmament advocates. Today many of those same governmental and non-governmental representatives are calling for a Nuclear Weapons Convention. Voices that rejected the possibility of complete nuclear disarmament five or ten years ago, and others that accepted it but rejected the NWC as part of the process, have changed their tune.

It is time to reassess the assertions that it would be idealistic, unrealistic, or premature to begin efforts towards a nuclear weapons convention. As Rebecca Johnson commented: “Civil society is frequently credited with the idealistic thinking that identifies ‘visions of how we would like the world to be’, only to be patronised as ‘well meaning but ignorant’ when we campaign to turn these aspirations into reality.”¹

In fact, it is idealistic to think that we can maintain current policies and practices — knowing that ‘domino effect’ is written into nuclear policies — without some unforeseen or unforeseeable nuclear catastrophe. To think that current nuclear policies are capable of meeting the underlying inter-linking dangers posed by the widespread availability of nuclear materials and the prevailing post-cold war complacency — that is the real La La Land.

Is the goal of the NWC unrealistic? Again, citing Johnson: “we have to challenge [the] political limits and limitations and... identify and work for the transformational progress that so-called realists believe to be impossible. As we commemorate the 20th anniversary of the Berlin wall being pulled down, let’s remind ourselves how quickly civil society can accomplish what governments and experts think is impossible!” A generation of academics with a rather limited vision of human capabilities gave themselves the complacent label ‘realists’. “...such labels act as linguistic sleight of hand to make it harder to ask essential questions.” It is much harder to ask HOW an NWC can be achieved — and to question old doctrines — than to dismiss the concept by declaring the goal impossible. True, if no efforts are made, an NWC is not possible. But if governments engage in good faith efforts to identify points of agreement and potential progress, then they might be able to create the conditions that will make disarmament more realistic. It is the familiar question of political will.

Lack of political will is the scapegoat for lack of progress on nuclear disarmament. But rather than dismiss the option of engaging on the basis of lack of political will, each and every government might take a closer look at its own political will

NUCLEAR WEAPONS CONVENTION

and at ways of exercising that will. Perhaps today progress on disarmament turns not on the question political will, which exists in potential form, as much as on the question of the energy to inspire and exercise this will. Popular energy needs to drive political will.

If disarmament succeeds, many will (rightfully) claim credit, but for this to happen they must invest in advance and help make it happen. Some will need to be inspired or provoked into taking action, others still need to be persuaded of the feasibility of the NWC. The tools are available in the form of various campaigns, networks and political mechanisms.²

It is also important not to allow disingenuous calls for the NWC to cloud our judgment or deter clear thinking about its feasibility. As the NWC gains credibility, we can expect to see a wide range of expressions of support, some genuine, others possibly some form of political posturing, particularly if coming from states that have a nuclear weapons program or come under a nuclear umbrella. Such expressions of support for the NWC should not be dismissed as disingenuous, however, since they can be used to hold governments to their word and to engage them, using the concept and elements of the NWC as talking points.

The political logic of a nuclear weapons convention has been disputed but never refuted. Often the goal was dismissed as a political impossibility, as 'unrealistic' and incompatible with the political reality and the inevitability of armed conflict. But even these arguments did not dismiss the logic of the NWC — the need for some form of agreed upon regime — if the conditions for disarmament were to exist. Rather, these realists dismissed the possibility of political conditions that would make planning for complete disarmament planning a meaningful pursuit. But times have changed, and those who reject the notion that it is time to begin negotiations are losing ground.

There is no need to recount here yet again the variety of voices that have added their support to the NWC concept — whether using this terminology or not — over the past half-decade. From the four nuclear 'horsemen' to presidents and prime ministers, to the UN Secretary-General's Five Point Plan, to international dignitaries and popular entertainers, voices from sources steeped in the tradition of realism, trained to reason, and toughened by hard reality, as well as voices reflecting the rhythm and mood of popular opinion, these and others have come to see that a comprehensive and united effort to rid the world of nuclear weapons is essential if our world as we know it is to survive.

The political logic of eliminating nuclear weapons is nothing new. It is exactly as old as the weapons themselves. The very first United Nations General Assembly resolution, coming just after the first use of nuclear weapons, called for their elimination. It is the question of timing (when real nuclear disarmament will begin) and the approach to time (now is the time) that has changed.

²The four horsemen of the Apocalypse from The Book of revelations, Chapter 6 (refers to Kissinger, Schultz, Perry, and Nunn).

Political realities have presented themselves in such stark terms in recent years that the nuclear threat appears more real, and therefore its solution more imperative. Can we afford to get tied up today over questions of precisely what timelines and deadlines will apply tomorrow? Many former and presumably continuing sceptics have come to realise that the answer to this question is no. No, we cannot afford to waste time debating the most 'realistic' approach. We must approach the challenge of disarmament head on, undertaking what we know will be a work in progress, setting forth goals and goalposts that will create new realities, refining the framework and timelines as real disarmament work progresses.

A civil society strategy for starting the process towards a nuclear weapons convention involves getting the goal of the NWC into the mainstream, "to gain recognition for the NWC as a realistic and reasonable concept even among those who disagree with its aims."³ The elements of such a strategy include:

- Engaging governments in discussions about the legal framework for prohibiting and eliminating nuclear weapons
- Encouraging governments to including consideration of the NWC (whether using this terminology or not) in their official statements, to generate an "accumulation of proposals" and/or to endorse the UN Secretary General's five-point disarmament plan of 24 October 2008
- Following the 2010 NPT Review Conference, internationally coordinated and locally implemented actions in support of the NWC, regardless of the outcome of the Conference
- Creating a partnership between civil society and governments to establish the conditions for the NWC

The most prevalent counter-argument against starting negotiations towards a Nuclear Weapons Convention has been that it is premature, not that it is illogical if the conditions for disarmament exist. Times have changed, and the many old and new voices calling for complete nuclear disarmament are evidence that the conditions exist, and the time to begin discussions about the goal and content of such a treaty is now.

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NUCLEAR WEAPONS AND PEACE

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Nuclear weapons were first built during World War II and the purpose was to use them. Those in command in Washington were not troubled by the effects of the bombs on Hiroshima and Nagasaki. From their perspective the war was already horrible, the number of American victims high, and the purpose righteous. During the 65 years since 1945, psychological and political barriers against the use of nuclear weapons have grown — even though the US still considers it has a right to first use in a conflict that involves vital US safety interests. Governments in other nuclear weapons states probably hold the same opinion, although they express it differently in official contexts.

Therefore, it is no surprise that the option to use nuclear weapons has been seriously considered in four — perhaps five — conflicts. Documents exist which show that threats to use nuclear weapons have been presented to the adversary or, in some cases, formulated as military options. The list contains, among others, the US threat against North Korea in 1953, aiming to terminate the Korean War; the Vietnam War (different phases); and the Soviet threat at the end of the 1960s as part of the Sino-Soviet conflict. It is not easy to assess the risk that nuclear weapons could have been used in these conflicts. Suffice it to point out that the use of nuclear weapons will be one option for any nuclear-weapon state engaged in a serious conflict.

Deterrence is not peace

The threat of nuclear retaliation was an integral part of the Cold War. The strategy of deterrence was referred to, quite appropriately, as a balance of terror: if Soviet forces were to attack Western Europe, the US would respond with a nuclear attack on the Soviet Union. Likewise, if NATO were to attack the

Soviet Union, Moscow would retaliate by destroying Western Europe and the US. It was real terror: clearly declared threats against the defenseless civilian population of the other side. There was an on-going debate as to which targets would be the most effective for deterrence: directly threatening to extinguish the population of the other side by aiming at large cities (the so-called countervalue strategy), or aiming at the weapons of the other side (the counterforce strategy). The better the accuracy of weapons and weapon carriers, the more the focus tended to shift to the latter strategy.

In this way, however, more insecurity was built in: “what if the weapons of the other side are so numerous and so accurate that they can eliminate all our weapons before we have time to launch them?” That would mean a devaluation of deterrence, giving an advantage to the other side. The feasibility of this so called first-strike capacity caused levels of nuclear armament to rise even higher, as it took a great quantity of mobile, unreachable systems to counteract it. As a result, the arms race between the superpowers accelerated. Armament expenses rose to ever more absurd levels and a number of proposals for new weapons systems were put forward. These, however, elicited an increasing number of protests. The international Nuclear Freeze Movement of the 1980s contributed to tempering the rearmament fever. Together with a new leadership in the Soviet Union, it created an example of how the dynamic could be broken. When the Intermediate-Range Nuclear Forces Treaty entered into force in 1988, the US and the Soviet Union for the first time agreed to the common phasing out of a whole class of nuclear weapons. The nuclear weapons dynamic of the Cold War had been broken and could be transformed into engagement for

disarmament. Unfortunately, this process has come to a standstill for several years.

The theory of deterrence was fundamental during the Cold War. It created an ever-present insecurity between the parties. It may have had a restraining effect on some decision makers, but the world was far from a peace system worthy of the name. Measures considered defensive by one party were seen as offensive by the other. The ability to handle conflicts and crises was negatively affected.

One very early example was the Cuban Missile Crisis of 1962. The issue — from an American perspective — was that Soviet nuclear weapons in Cuba undermined the US capacity to deter a Soviet strike. Within few minutes Soviet missiles could reach and eliminate the American forces — before the US would have had the time to react. The Soviet Union regarded the missiles in Cuba as a way to deter an American invasion of Cuba (i.e. as defensive). The fact that the US had nuclear weapons in Turkey, which could reach Soviet deployments, was probably included in the decision process. The Cuban Missile Crisis came to be the most dramatic moment in Cold War history. In the course of the crisis, the whole world could follow a drama with global implications. Nuclear weapons, intended to deter, instead scared powerless people.

Later crises between the superpowers illustrate similar risks. In 1973, in the Middle East, the US thought that the Soviet Union might defend Egypt with nuclear weapons when the war with Israel changed to the advantage of Israel. The US placed their nuclear weapons on the highest state of readiness to demonstrate to the Soviet Union that they disliked the situation. Had the US misunderstood it? The insecurity that was supposed to lead to safety created more insecurity.

Illusory safety

Nuclear weapons have not been used in war since 1945. As already described, plans for their use as one option have been made, but the weapons have been regarded as militarily difficult to use: large areas can be contaminated, radioactive clouds may blow in over own troops, and it is impossible to discriminate between civilians and military personnel. This inutility has left nuclear weapons with only one role: weapons of deterrence.

The idea that if A threatens to use nuclear weapons, B will not attack — either with conventional or with nuclear weapons — attracts some states. Nations that feel exposed to existential threats from the surrounding world consider this a reason to acquire these weapons. “They give us more safety”. As we have seen from the history of the Cold War, this is an illusory safety. In reality, possession of nuclear weapons increases the level of suspicion between the parties: actions are more apt to be misinterpreted, the need for information (spies, satellites, infiltration) will become infinite (the less you find, the more convinced you will be that something big is about to happen because it is kept so secret).

India and Pakistan have possessed nuclear weapons since 1998. Relations between the two countries have not improved and no underlying conflicts have been resolved. Rather, nervousness has increased (e.g. about whether the Pakistani arsenals are really well under the control of legal authorities). The possibility of a fundamentalist takeover is a source of worry not only for Pakistan but also for India and the rest of the world.

Israel has probably had access to nuclear weapons for a long time. Nevertheless, it has been afflicted by two Palestinian revolts, one non-violent and one violent; it has been involved in several

wars (Lebanon 2006, Gaza 2008-09); and it has been the victim of rocket attacks and suicide assaults. Being a nuclear weapons possessor has not helped to bring the country closer to a desirable peace order in the Middle East. Rather, it has stimulated other nations to develop nuclear research programs: Iraq, Iran, Libya, Syria. As of today, only Iran has a nuclear power ambition, though the leadership has declared it does not intend to produce weapons. The military insecurity of Iran, however, is probably not caused by Israel but by the unresolved conflict with the US, the conflicts in Iraq, the Pakistani complications, and the inflamed crisis in Afghanistan.

The US war against Iraq is probably the only war where the threat of a possible nuclear weapons arsenal has actually started a full-blown war. The official American motivation was to prevent Iraq from ever getting this capacity. This preventive war against nuclear proliferation will hopefully remain an exception but, all the same, it shows that nuclear weapons can create conflicts and that the fear of them can make superpowers act shortsightedly, neglecting reasonable peaceful alternatives.

It is possible to argue that the nations most likely to go for a nuclear weapons program, are those which do not belong to defense pacts, regard themselves as different, consider themselves victims of threats from superpowers, and are questioned by the rest of the world. North Korea fits this description and so does the Islamic Republic of Iran. South Africa during the apartheid regime belonged in the same category and its return to the international community at the beginning of the 1990s coincides with the abolition of its nuclear weapons and with its internal democratization.

Potential nuclear weapons nations

should be looked for in this group in the future. In addition to North Korea and Iran there are also Burma/Myanmar and maybe Syria (even if their nuclear plants seem to have been destroyed in an airstrike in 2007). One could also speculate about other countries with economic resources which are in conflict with the Western countries.

History, however, shows that when a new nation gets nuclear weapons, this step often leads to more conflicts with the surrounding world. This is what happened in 1949 when the Soviet Union exploded their first atomic bomb, when China did the same in 1964, and in May 1998 when both India and Pakistan performed nuclear tests. The nuclear explosions in 1998 increased tensions between India and Pakistan, leading them to a war in 1999. These weapons do not create more security, let alone peace.

Disarmament creates peace

The lesson from these nuclear weapons situations is that peace will come when nuclear arsenals are abolished or reduced, not when they are acquired. Nuclear weapons are linked to insecurity. The treaties made between the superpowers during the Cold War were mainly meant to take care of tensions created by the weapons, not to solve the basic conflicts. Nuclear weapons shift focus away from the problems that really need to be solved. When the threat of a nuclear war in Europe was lessened through the removal of provocative weapons, the need for Soviet control of Eastern Europe was reduced. When Libya announced the intention to close down its nuclear program, the Western

» *Article continues on page 19.*

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POWER HEN OR BOMB EGG – WHICH ONE COMES FIRST?

Discussion of the relationship between nuclear power and nuclear arms

Stefan Björnson

Introduction

There is a notion that buildup of a nuclear power program is an entry gate to development of nuclear weapons. It can also be claimed that nuclear power plants came as a sort of spin-off from development of nuclear weapons. There is certainly a connection between production of fissionable material for either purpose, but that connection depends on the economic and geo-political conditions in the particular circumstances. Those who oppose nuclear power sometimes argue that nuclear power and nuclear weapons are “siamese twins”, claiming that used nuclear fuel contains enough Plutonium to

manufacture – in theory - hundreds of thousands of nuclear bombs. This is true, but the Plutonium in used fuel is not suitable as material for bombs with reliable properties. Such weapons might only serve as tools for terrorists. This is a frightening enough perspective, but should be compared with the possibility that terrorists can cause other kinds of disasters with chemical or biological substances. In my opinion, the greatest risk posed by the continued buildup of nuclear power in the world is that, in the longer term, it will call for development of new types of fuel, which will lead to an increased circulation and proliferation of fissionable and radioactive material.

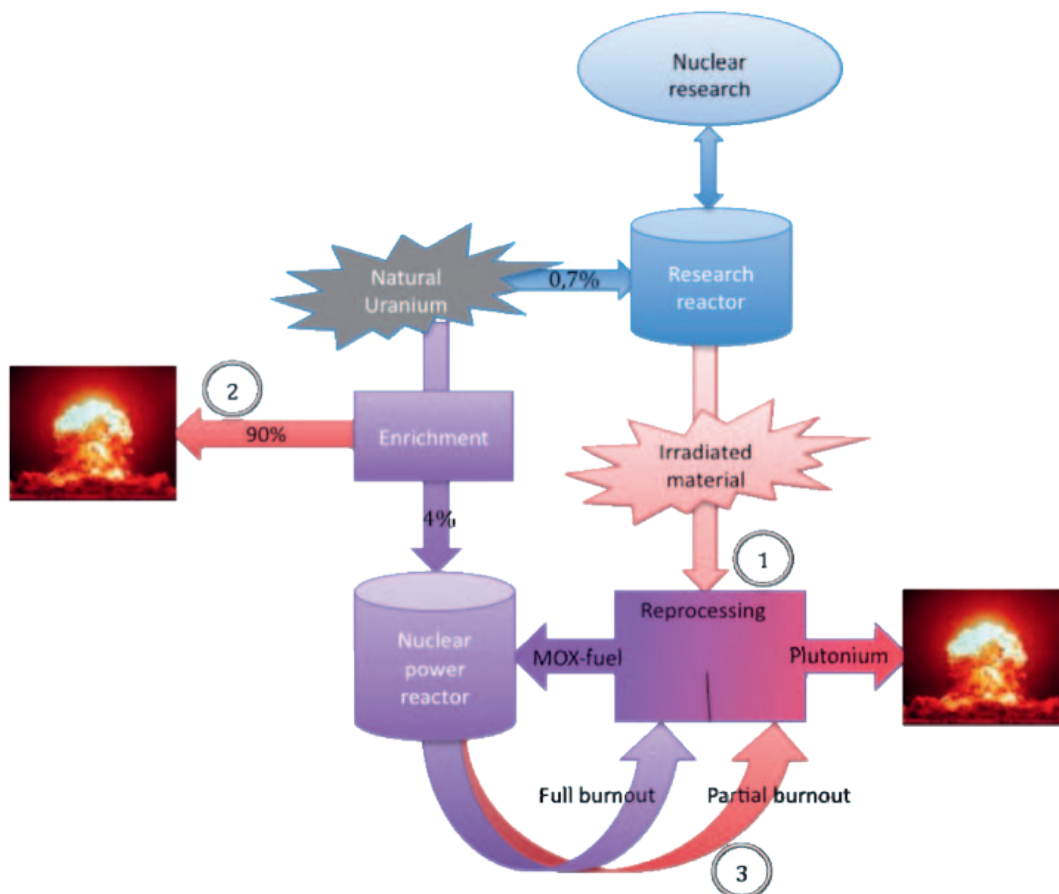


Diagram showing the relationship between nuclear power and nuclear arms.

The following paths to development of nuclear weapons can be identified:

1. Irradiated fuel is removed from a research reactor and reprocessed for separation of weapons-grade Plutonium.
2. A Uranium enrichment process for production of nuclear fuel is used for production of weapons-grade Uranium.
3. Partially burnt-out fuel from a nuclear power reactor is reprocessed to separate weapons-grade Plutonium.

NUCLEAR POWER – NUCLEAR WEAPONS

Enormous energy in the smallest units of matter

Nuclear physics research took off in the first decades of the 20th century. Many previously unexplained phenomena could now be sorted out in a coherent scientific view of physics. Among other discoveries, it was understood that energy could be produced by splitting large atomic nuclei. When these discoveries were made, they came out predominantly as scientific advances without apparent practical use in everyday life. Among the then-available materials, the Uranium isotope U235 had the right properties for generation of nuclear energy. Uranium is a scarce element, only 0.75% of which consists of the isotope U235. The general perception was probably that setting up a program for supply of energy through nuclear fission was technically infeasible and economically unjustified. Moreover, in the 1930s there were apparently unlimited reserves of oil and coal and there was no understanding of problems with greenhouse gases.

But then came the war.

In a letter to US president Roosevelt, Albert Einstein stated that it would be possible to manufacture extremely powerful bombs through the use of nuclear energy. The president reacted immediately and appointed a committee, tasked with investigating the options for such development. The whole issue gained momentum when the USA entered the war and there were concerns that Nazi-ruled Germany was about to obtain such bombs. The continued development of nuclear weapons — with a first nuclear blast in the Nevada desert in July 1945, the two atomic bombs over Japan in August, and the resulting arms race between the superpowers — is well known history.

Table 1. A historical perspective

Parties	Raw material	Nuclear fuel	Material for bombs
USA, early 1940s, war industry	Imported Uranium, originating in Belgian Congo	Not applicable	Enriched Uranium, over 90% U235
	Plutonium from research reactor	Not applicable	Reprocessed with separation of weapons grade Plutonium
Major states, post-war period. Arms race, initial development of nuclear power	Uranium from domestic sources or legal markets	Enriched Uranium, over 4% U235	Enriched Uranium, over 90% U235
	Plutonium from research reactors	Not applicable	Reprocessed with separation of weapons grade Plutonium
New nuclear-weapon states, reduced tensions. Regional balance of power	Domestic Uranium resources or illegally acquired Uranium	Enriched Uranium, over 4% U235	Enriched Uranium, over 90% U235
	Plutonium from research reactors or power generation reactor (at low burnout)	Not applicable	Reprocessed with separation of weapons grade Plutonium
States with a long term nuclear power program and in international cooperation	Uranium from domestic sources or from a legal market	Enriched to about 4% U235 or LEU acquired on a legal market	Not applicable
	Plutonium from reprocessed fuel or from breeders	Reprocessed fuel	
	Thorium	Irradiated in breeders and reprocessed with separation of U233	Increased risk for proliferation through more extensive handling of fissionable material

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How does it work?

If a heavy atomic nucleus is split through irradiation by neutrons at a suitable energy level, the binding energy, which has kept the fragments together, will be released. This is the first factor behind nuclear energy. The second factor is that some atomic nuclei emit neutrons when they are split and these can, in turn, split other nuclei, which then, in turn, emit neutrons, splitting more nuclei, and so on. Such an exponentially progressing chain reaction takes place during a very short time and results in the release of enormous quantities of energy. As mentioned above, the isotope U235 has suitable properties for this, but there are also other materials that can be used for a chain reaction, among them Plutonium 239 and Uranium 233.

These latter isotopes are of importance for the next generation of nuclear reactors, to the extent that such reactors will be developed. In a nuclear reactor, the fission process must be kept under strict control so that energy production matches current demand. In an atomic bomb, however, as much energy as possible must be released during as short a stretch of time as possible. The technical conditions for each of these processes will therefore be quite different. The common factor is availability of fissionable material with suitable properties, and it is here that the connection between nuclear power and nuclear weapons should be sought.

Nuclear power and nuclear bombs in a historical perspective

Table 1 provides an overview of the development of material for nuclear power and nuclear weapons, respectively, under different political and economic conditions. Cases where there may be a connection between nuclear power and nuclear weapons have been highlighted through shading.

NUCLEAR POWER – NUCLEAR WEAPONS

World War 2

The USA developed Uranium and Plutonium bombs in cooperation with Great Britain (Manhattan project). The work to develop nuclear bombs started in the autumn of 1942 and resulted three years later in the first nuclear test in Nevada and the two bombs that were dropped on Japan. The focus at all times was on producing a weapon that would lead to victory in the war and - from the outset of the project – to get ahead of a possible German bomb. There may have been a discussion about using nuclear fission for production of energy, but the atomic bombs were developed directly based on theoretical and experimental results.

Post-war period, arms race

During the post-war period, four additional states acquired nuclear weapons: Great Britain, the Soviet Union, France, and China. The development of nuclear power plants occurred at the same time and it is likely that facilities for Uranium enrichment were used for both nuclear power and nuclear weapons.

Reduced tensions, regional balance of power

New nuclear weapon states, in addition to the five original ones, acquired nuclear weapons by combining their own research programs with knowledge and technology that had been transferred for development of civil nuclear technology (science, medicine, power generation). Such transfers open up opportunities for setting up plants for Uranium enrichment or extraction of weapons-grade Plutonium from power plants that have been operated with a low level of burnout (which is sub-optimal for energy production).

Long term nuclear power program

Forecasts made in 2008 indicate that known and projected supplies of Uranium will last approximately until the end of this century, give or take a decade or two. This applies to use in present reactor types. If nuclear power is to serve as an enduring source of energy, it will be necessary to apply technology for fuel generation through breeding¹ (Plutonium, Thorium). One problem with this, however, is that there are no working breeder reactors in operation today.

Power for a new era

In the post-war period, this new and seemingly mysterious power from some of the most elementary units of matter appealed to the prevailing optimistic view of technical achievements. In the new age, it was expected that nuclear power would provide unlimited energy resources – so cheap that it might no longer be worth the effort to charge for the electricity. In addition, it was proposed that nuclear bombs might be used for blasting harbors, re-aligning large rivers, opening up strip mines and other imaginative prospects. As we know now, there was not to be any civilian use of nuclear bombs, but plans for energy production with nuclear power progressed. Countries such as Sweden, where there is neither coal nor oil, saw in this an opportunity for independent energy production from domestic supplies of Uranium. The Swedish program was shaped with heavy water reactors and natural (non-enriched) Uranium. But the plans did not stop at peaceful nuclear energy; there were also ideas about developing nuclear bombs of the Plutonium type, where the Plutonium was to be manufactured in a breeding process adjacent to the power reactors. So in this case there was a connection between nuclear power and nuclear weapons. But further deliberations with respect to geopolitical, military, and economic aspects resulted in the conclusion that it would not be in the best interest of Sweden to invest all available defense resources in developing nuclear weapons. Reportedly, there was also diplomatic pressure and promises of benefits from the USA, which played a significant role in swaying the Swedish resolve. A groundswell of domestic public opinion opposed plans for Swedish nuclear weapons. Furthermore, the international community was turning against a scenario where nuclear weapons would become standard armaments in arsenals worldwide. This resulted in the Non-Proliferation Treaty (NPT) for nuclear weapons, which was signed in 1968. A number of countries (e. g., South Africa, Argentina, and Brazil) have initiated nuclear weapons programs, which were cancelled before these countries declared that they were nuclear-weapon states.

The Cold War political bomb

The NPT stipulates that nuclear weapons would not be acquired by others than the five nuclear-weapon states at that time (France, the Soviet Union, Great Britain, China, and the USA), who in turn undertook to reach agreement on disarmament and abolition of these weapons. In reality, it had already

¹ Breeding means that a surplus of neutrons in a reactor core is used to produce new nuclear fuel: Plutonium (from U238) and U233 (from Thorium).

NUCLEAR POWER – NUCLEAR WEAPONS

been established that nuclear weapons can have no military role other than in a doomsday war. The propositions that were made to employ nuclear weapons during the Korean War and Vietnam War, respectively, did not gain support. During the Falklands War there were also proposals to bomb Argentinian air bases with nuclear weapons. But the bombs had already lost their military significance and were useful only as showpieces of the power and might of the country that owned them. Since the great powers kept sticking to and, furthermore, continued developing their nuclear weapons, other countries started questioning whether the NPT had been entered in good faith, or was merely a maneuver to maintain the monopoly of the nuclear states. A quest for regional balance of power pushed some countries in Asia towards developing their own nuclear weapons. India performed its first nuclear test in 1974. Pakistan followed suit with a nuclear weapons program that resulted in a test in 1998, more or less as a reaction to renewed tests in India. In both of these cases it is claimed that the two countries had received international aid for a nuclear research program, which had gone off-rail.

According to several analysts, Israel possesses up to 200 nuclear warheads. Israeli officials have neither confirmed nor denied this. The weapons were presumably developed at a nuclear research facility close to the city of Dimona in the Negev desert. Expert analysts of satellite photos are said to have identified nuclear-weapons-related objects in that plant. Furthermore, an Israeli technician, Mordechai Vanunu, who worked in the plant, has blown a whistle on development of nuclear weapons there. It has been noted that no scientific reports have come out of the Dimona plant, despite its status as a research facility.

The example of South Africa is interesting as a parallel to both the cancelled Swedish nuclear weapons project and the current project in Iran for Uranium enrichment. The main reason for scrapping the South African nuclear weapons capacity was that the global political situation had changed when Cuban forces left Angola and the Soviet Union ceased to exist. Production of nuclear weapons from enriched Uranium in South Africa shows that it is feasible for a country with limited resources to develop relatively simple nuclear weapons, which can be integrated into existing armament. In this case a nuclear power program, including fuel production with domestic enrichment of Uranium from South African mines, had been used for production of weapons-grade Uranium. Manufacture of bombs had been integrated into the domestic weapons

industry. The international sanctions, which were aimed at the apartheid system resulted in some slowing down of the operations, but they also strengthened a resolve to make the country strong and independent – according to then-prevailing political dogmas.

The Bomb vs rogue states

Those who now seem to stand in line to get the bomb include a number of the so-called rogue states – North Korea, Iran, Burma. The military reasons for these states wanting to obtain a nuclear capacity are beyond the scope of this article, but there is, in any case, some additional distance to go before they can have operational nuclear charges that can be dropped on an adversary.

In the case of North Korea, there is a connection between research at the Yongbyon science plant and nuclear weapons. It is likely that the charges that were exploded by North Korea consisted of Plutonium from the core of a 50 MW reactor, which also was used to heat buildings in the science plant. So in this case it can be said that there is a connection between nuclear weapons and nuclear power, even if the connection to nuclear research is stronger.

Iran claims to strive for an independent supply of fuel for a nuclear power program. Consequently, the country focuses on a domestic capacity for enrichment and is reported to be making progress with this. There is a justified concern in the international community that the enrichment might be kept on beyond the 4% of U235 needed for nuclear fuel and up to the 90%+ that might be used to produce Uranium bombs. In the case of Iran there is a connection between nuclear power and nuclear weapons - if developed - since establishment of the enrichment capacity is justified through a nuclear power program.

It is not clear whether any real plans correspond to the rumor that the rulers of Burma would want to acquire nuclear weapons. If this is the case, North Korea is considered to be the most likely supplier of knowledge and equipment.

Performing nuclear tests is really just a statement of "yes, we could!", because several steps remain before the country in question has a functional nuclear weapon in actual deployment. First, the charge must have a shape and weight that can be carried by airplanes or by missiles. Second, these airplanes and missiles must be available as delivery systems and, third, there should be a credible military strategy for when and how such weapons might be deployed. What would happen the day after a nuclear bombing; what would the international reaction be? »

NUCLEAR POWER – NUCLEAR WEAPONS

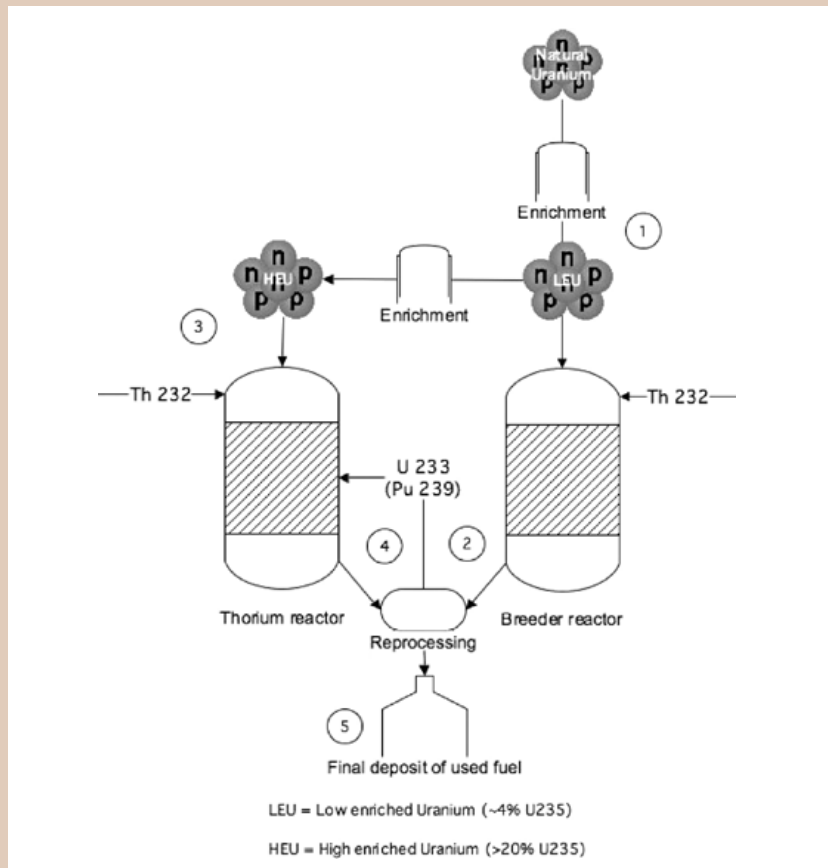
The Future?

In 2005 there were about 450 nuclear power plants in the world, which supplied 16% of the produced electricity and 2.2% of worldwide energy needs. Under certain assumptions about extended nuclear power and exploitation of known and assumed Uranium supplies, the Uranium will last until approximately the turn of the century, give or take a couple of decades. Considering the dwindling supplies of fossil fuels and the goal to reduce emission of greenhouse gases, it is not likely that our civilisation will abandon nuclear power as a source of energy. It will then be necessary to resort to various methods for preparation of nuclear fuel of other kinds, such as breeder technology or Thorium reactors (c.f. informative frame below) if nuclear power is to last into the coming centuries. This will lead to significant increases in the quantity of fissionable material (Plutonium, Uranium 233) in circulation. It will become more difficult to monitor fissionable material and the risk for nuclear weapon proliferation will increase. The advanced technology that is required to get such a nuclear power program to work, however, calls for international cooperation, which should restrain nuclear weapon aspirations. Society as a whole will become more vulnerable, and strict control and security functions will have to be set up.

The Thorium process, future nuclear power?

A simplified description of the technology

The diagram below is an overview of the different steps for a Thorium-based nuclear power cycle.



Nuclear power generation based on Thorium: The left side of the diagram shows how an essentially self-sustained Thorium reactor might work. The right side shows the transition process with breeder technology to get the Thorium process started. The different steps are explained with reference to numbers 1-5 below.

- 1 – Natural Uranium is enriched from 0.7% U235 up to about 4% low enriched uranium for use in a breeder reactor. The surplus neutron flux in the breeder is used to convert Th232 to U233 and U238 to Pu239 (a side-effect).
- 2 – The irradiated breded material is removed from the reactor and reprocessed. Surplus material is stored in a final deposit.
- 3 – The effect of the Thorium reactor may be boosted with extra high-enriched U235 (>20%). Thorium is added as fuel.
- 4 – Breeding material is removed from the Thorium reactor. Reprocessed U233 and to some extent Pu239 serve as sources of energy and neutron flux for conversion of Thorium to U233. It is also possible to run the system in once-through mode, without reprocessing.
- 5 – The waste material is processed in a suitable way and dispatched for final storage.

Note: To-date there is no universally accepted safe method for final storage of nuclear waste.

NUCLEAR WEAPONS AND PEACE

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world could get an acknowledgement concerning the Lockerbie bombing. Furthermore, today Iran is offered a positive relation with the West if only they allow the IAEA to perform their inspections. The new US negotiation/boycott strategy towards Burma/Myanmar aims to lessen this country's ambition to develop nuclear weapon of its own.

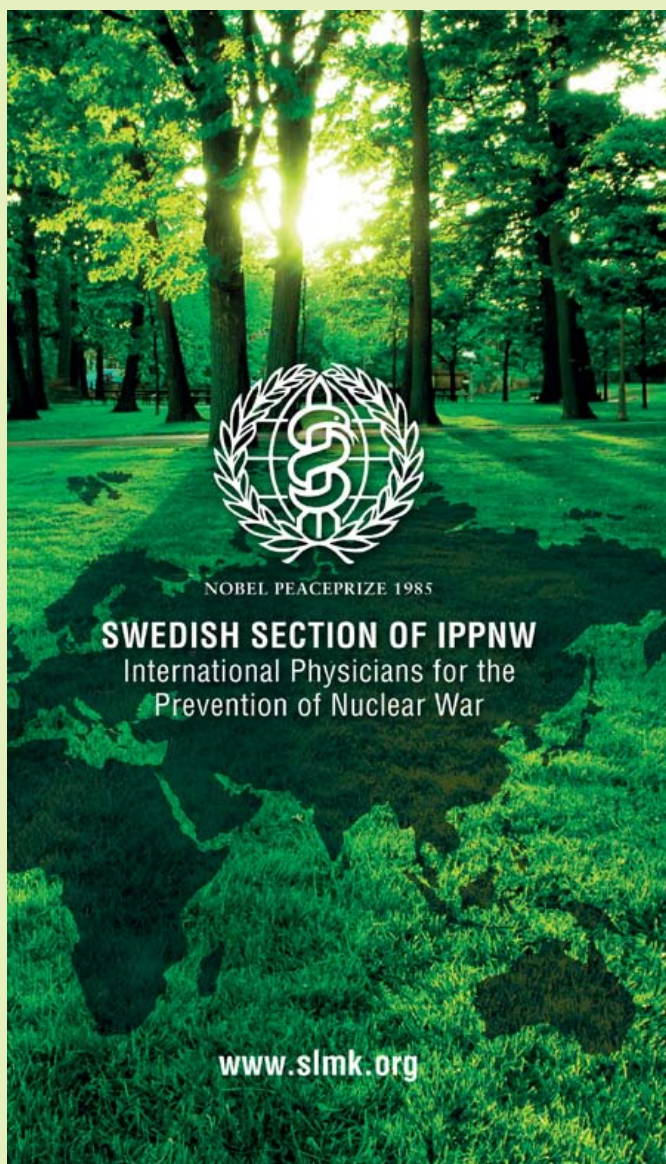
Nuclear weapons and a policy of deterrence have not managed to build a lasting and constructive peace. Furthermore, these days the effectiveness of deterrence is questioned in a new, still more worry-

ing way: the political suicide. The mere existence of people who are not held back by the death of many innocent people as a result of their violent deeds, undermines the basic idea of deterrence. The deterrence thinking assumes that the one to be deterred is held back by the danger of retaliation. However, if the actor is not worried about retaliation there is no deterrent effect.

In sum, nuclear weapons a) have been used in war; b) have been part of military thinking in particular conflicts; c) have been used to threaten opponents; d) generate considerable insecurity even when not explicitly used as threats; e) become issues of conflict in themselves

due to their inherent dangerousness; f) induce parties to develop more weapons in order to preempt possible new moves on the others side (i.e. are coupled to arms races that are difficult to check); g) are only politically useful as deterrents, which, however, requires that they have credibility based upon a) through f); and h) build on deterrence which is increasingly undermined in an age of suicide heroism. For the sake of peace it is time to do what US President Ronald Reagan said in 1983: render these nuclear weapons impotent and obsolete!

Translation from Swedish:
Jan Larsson, Ulf König



”Another world is not only possible, she is on her way. Maybe many of us won't be here to greet her, but on a quiet day, if I listen carefully, I can hear her breathing.”

Arundhati Roy

To hit a bullet with a bullet: ten years of Missile Defense

Claes Andreasson

On June 22, 1999, President Bill Clinton signed the National Missile Defense Act into law. It states that “it is the policy of the United States to deploy as soon as is technically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack.”

“Any National Missile Defense system we deploy must be operationally effective, cost-effective and enhance our security”, President Clinton said after signing the bill.

Five years later, before any of these conditions were met, the first missile was put into its silo at the former army base Fort Greely in Interior Alaska. Another five years later, President Barack Obama decided to shelve a similar ground-based system planned for Poland and the Czech Republic.

”A HISTORIC DAY”

Between overgrown aspen and windblown white and black spruce, you could catch a glimpse of the snow-capped Alaskan Range, with the majestic Mount Hayes. A sudden wind gust whipped up another burst of dust over the 800 acre open, flat field.

It was an early July morning in 2004 as a giant crane slowly started to lower the 54-foot Orbital missile into its launching silo at Fort Greely in the Interior of Alaska. Before the end of the year, another five missiles would be housed here.

– It’s a historic day. When the remaining missiles are in place, we will — for the first time — be able to defend our country against enemy missiles, said a proud Major General John Holly, in charge of building the system at Fort Greely.

Because of the vicinity of the nearby city Delta Junction, this was initially planned to be just a test site. No missiles were supposed to ever be launched from here.

– It’s true that it started out as a test site, John Holly said. However, we have every intention to make this system operational.

Missile launches just a few miles south of town didn’t seem to worry people in Delta at the time.

– A show of force and power leads to peace, so I don’t have any problems with it, said farmer and reverend Terry Flugrad. Besides, I think there is a bigger risk getting killed driving on the freeway that being hit by a missile.

Many in Delta also remember the mid-1990s when the army base was in essence closed.

– A lot of people lost their jobs. Some moved away from here. So it became really clear to me what an important part of



In the summer of 2004, the first missile was put in its silo at the former army base Fort Greely in Interior Alaska. The following day the event was the top story in the local newspaper, the Fairbanks News-Miner.

the community Fort Greely and its activities are to us, says Delta Junction's Mayor, Mary Leith Dowling.

Missile defense was clearly a welcomed economic boost to a community with about a thousand people within the city limits.

– We are very dependent upon Fort Greely. We don't pay any [local] income tax and rely entirely on money from the state and federal government, says Swedish immigrant and pastor Carin Björn von Letzendorf.

The military paid for a new library, an elementary school, a new modern landfill, an outdoor hockey rink, plenty of new homes. And a new fire station, where Pastor "Bear" volunteers as fire chief.

– And they bought us a new zamboni for the hockey rink. Believe me; all the hockey people are thrilled! says Mayor Leith Dowling.

According to one account, Fort Greely generates about \$65 million dollars in economic activity annually.

– The construction jobs have been very important to our economy, Mayor Leith Dowling says. We have lots of people with bunk houses in which crews are living now. In the evening, those crews don't just want to sit in the bunk house, so they go out and eat and spend money in town.

– The military also gives us money to fund the library, to help us keep it open longer hours. And the construction workers go there to read and to use the computers.

Most infamously stupid

But there are critics.

– No doubt the missile defense program has been an economic success for us here in Delta, says Deanne Meyer. But I have always been very doubtful that the system will ever work. I think it is an enormous waste of money.

– I don't feel an ounce safer today than I did before the missile defense system was deployed, says David Koester, professor of anthropology at the University of Alaska-Fairbanks. It's probably true that a lot of people want a strong defense, and local politicians often talk about the economic benefits of the missile defense. But I believe that this is bad labor politics. There's got to be better ways to spend our tax dollars.

The sentiment is shared by others who also welcomed President Obama's recent decision to cut back on the ground-based missile defense program.

– Considering that this is by far the most infamously stupid and expensive part of the program, the president's decision is not surprising, says Stacey Fritz from the action group *No Nukes North* in Fairbanks. I think the entire direction of the missile defense is offensive and damaging.

But decreased defense spending angered many elected officials in Alaska.

– This is the wrong message to send our adversaries, says Senator Lisa Murkowski. Moreover, the U.S. has already invested substantial amount of money in the purchase of additional interceptor missiles and the construction of a second

missile site. Are these dollars to be lost to our national security?

In Delta Junction, the defense cut-backs were also a cause of concern.

– There was major concern among the military when Barack Obama was elected, Pastor Carin Björn von Letzendorf says. If the base would ever be closed, it would affect the community severely. This is truly a "boom and bust community."

Moldy silos

Fort Greely was originally supposed to house forty missiles. In the most recent defense budget the number of missiles were cut to 26, with an additional four at Vandenberg Air Force Base in California. A remaining 14 missiles, already purchased, will be used as back-up.

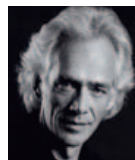
There have been problems reported with mold and water leaks in missile field 1 at Fort Greely, due to the hasty construction in 2004. While the field is operational, it will grow increasingly expensive to maintain. The problem caused Alaska senator Mark Begich to introduce a bill directing the administration to spend an additional \$82 million dollars to finish the first half of a third missile silo field at Fort Greely, while in return shutting down the damaged silos.

– The agreement we have reached will ensure that Alaska continues to serve as America's frontlines of defense against rogue states, Senator Begich said in a statement.

In Delta Junction there are no signs, at least not yet, of any defense cut-backs. And truth be told, to some a bit of a slow down wouldn't hurt.

– It's almost impossible to find someone to help you do standard work in your home. With all the construction, all the people that used to be available, are now working on the base, says Mayor Leith Dowling. There is also a lot more people in town. To some, that's a nuisance. Alaskans are independent, and not used to waiting in line at the store or the post office.

– But overall I think the missile defense is a positive. I think we are a very supportive community. And the people at Fort Greely want to work with us, they try to keep us informed about what they're doing. It has brought jobs back and a more positive tone to the area.



Claes Andreasson is an independent public radio producer based in Los Angeles."

U.S. SHIFTS EUROPEAN MISSILE DEFENSES

Claes Andreasson

September 17, 2009 President Obama announced that he would shelve the previous administration's plans for a ground-based missile defense program in Europe, abandoning blueprints for a large radar station in the Czech Republic and ten interceptors in Poland.

– The White House deserves credit for changing course, says David Wright of science-based non-profit *Union of Concerned Scientists*.

The United States will instead expand the existing ship-based Aegis defense system, along with a network of sensors and land-based mobile Standard Missile-3 interceptors primarily in southern Europe.

– The Bush plan was focused on intercontinental ballistic missiles. Iran doesn't have any ICBMs, says former Assistant Secretary of Defense, Philip Coyle. Barack Obama is now focusing on what Iran does have, short- and medium range missiles that can reach southern Europe.

Although the administration perceives a changed Iranian threat, some analysts still doubt how serious it is:

– I continue to believe that the Iranian regime is not suicidal enough to launch an attack against Europe, says Tom Collina of think tank *Arms Control Association*. They're not crazy as much as they try to appear unpredictable. They've taken a page out of the North Korean playbook – sometimes it's good to appear a little crazy, because your opponent doesn't know what to expect from you.

Starting in 2011 the Obama administration will deploy missile defenses in the south, starting perhaps in Turkey. This doesn't necessarily mean that Poland and the Czech Republic are entirely out of the picture:

– We are very interested in continuing to work with the Czech Republic, in terms of a piece of this architecture, Secretary of Defense Robert Gates said after the announcement. We are eager to go forward with the framework agreement with the Czechs on this, which would allow that. Clearly, what this represents is, if the Poles are interested in going forward, it meets their concerns about having this capability in Poland. And so I think that this is actually an enhanced

opportunity for – particularly the Polish government, but it also offers opportunities for the Czech Republic.

The Achilles Heel

If a reassessment of the Iranian threat was one reason for the change of plans, the planned ground-based system's technical problems was another.

– The technology doesn't work here in the United States. It wouldn't have worked in Europe either, says Tom Collina.

– The new plan has significant technical problems too, adds David Wright. The Aegis interceptors, current and planned, are also designed to intercept missiles above the atmosphere and would therefore be vulnerable to decoys and countermeasures, just like the current ground-based interceptors.

– It doesn't reflect sound science, says Lisbeth Gronlund of the *Union of Concerned Scientists*. Neither the ground-based system, nor the Aegis system has been tested under real-world conditions. They both remain unproven.

In a testimony before the House Committee on Armed Services earlier this year, former Assistant Secretary of Defense Philip Coyle called the decoys and countermeasures “the Achilles Heel of missile defense.”

– Shooting down an enemy missile going 17,000 miles per hour in space is like trying to hit a hole-in-one in golf, when the hole is going 17,000 mph. If an enemy uses decoys and countermeasures, missile defense is shooting a hole-in-one when the hole is going 17,000 mph and the green is covered with black circles the same size as the hole. The defender doesn't know which target to aim for.

Improved security?

The European missile defense system was always a thorn in the side of U.S. relations with Russia, which viewed the radar and interceptors as a threat to its strategic nuclear force. The decision to shelve the costly, controversial, untested ground-based interceptor system was a pragmatic decision regardless of Russia's concern, but could help secure Russian assistance in dealing with potential Iranian threats,

as well as their cooperation on cutting U.S. and Russian nuclear arsenals.

– The fact that the new plan happens to please the Russians is all good, says Tom Collina. It's the icing on the cake.

– However, David Wright adds, since hundreds of Aegis interceptors are now planned, with the improved generation of interceptors to follow, it's likely to provoke both Russian and Chinese concerns. Russian hawks might use the US system to argue against meaningful reductions in Russia's nuclear arsenal and other steps to reduce the nuclear threat. Chinese hawks will be able to make an even stronger case since their country has a much smaller arsenal.

The Bush administration's program was based on bilateral agreements between the United States and Poland and the Czech Republic respectively. The new plan is under the full umbrella of NATO. “One benefit of the phased, adaptive approach is that there is a high degree of flexibility – in addition to sea-based assets, there are many potential locations for the architecture's land-based elements, some of which will be relocated. We plan to deploy elements in northern and southern Europe and will be consulting closely at NATO with Allies on the specific deployment options,” according to the official statement from the Defense Department.

While most analysts applaud the Obama administration's decision to shelve the old missile defense plan for Europe, there is still some disagreement about the benefits of the new program.

– Overall, the Obama plan is pragmatic and provides better coverage sooner than the Bush plan would have, Philip Coyle says.

– The worst thing is deploying a system that doesn't work. Because what you do, is you get everyone thinking they're safe. You get the Iranians to build more missiles to overcome a system you have put in, which isn't going to work anyway, says Tom Collina.

– Only time will tell if the Obama missile defense plan really has made an improvement in the U.S. and European security, concludes David Wright from the *Union of Concerned Scientists*.

THE AGE OF STAR WARS

- 1955** Using an analog computer, Bell Telephone Laboratories completed 50,000 simulated intercepts of ballistic missile targets. The simulations indicated that it was possible to hit a missile with another missile.
- Nov 10 1966** Secretary of Defense Robert McNamara informs the American people that the Soviets were deploying the Galosh ballistic missile defense system. A few months later he and President Johnson try to convince Soviet Premier Kosygin to abandon the effort. Kosygin's response "Defense is moral, offense is immoral"
- Sept 18 1967** The Johnson administration announces the decision to deploy the Sentinel ballistic missile defense system, a two-tiered system that employed two nuclear interceptors, the Spartan and the Sprint. The Spartan was supposed to intercept warhead and decoys outside the atmosphere, the Sprint inside the atmosphere where air resistance would strip away decoys and make it easier to find the attacking warhead. Eighteen months later, Secretary of Defense Melvin Laird halted the deployment of the Sentinel program.
- March 14 1969** President Richard Nixon decides to deploy a missile defense system, Safeguard, designed to protect U.S. ICBM fields from attack by Soviet missiles.
- May 26 1972** U.S. President Nixon and Soviet General Secretary Leonid Brezhnev signs the SALT I Agreement which includes the Anti-Ballistic Missile Treaty (ABM) which limited the deployment of two ABM sites, each having 100 interceptors. One to guard an ICBM field, the other to protect national command authorities at each nation's capital city.
- 1976** Congress orders the Army to close down the Safeguard system, barely four months after it had become operational.
- March 23 1983** President Ronald Reagan announces his decision to launch a major new research and development program to see if it might be feasible to deploy effective missile defense at some point in the future.
- Jan 6 1984** Presidential National Security Decision Directive 119 establishes the Strategic Defense Initiative (SDI) to explore the possibility of developing missile defenses as an alternative means of deterring nuclear war.
- Oct 11-12 1986** Presidents Reagan and Gorbachev hold their second summit at Reykjavik, Iceland. During the meeting Gorbachev presses Reagan to accept limitations on the SDI program, but Reagan refuses to accept his terms.
- Nov 1986** The germination of the concept for 'Brilliant Pebbles' occurs in discussions between Lowell Wood and Greg Canavan. 'Brilliant' technologies refers to the use of powerful, miniaturized computers and sensors to give the capabilities previously possessed only by large, expensive satellites, to much smaller, inexpensive satellites.
- Jan 18 1991** According to press reports, for the first time in history, an anti-missile missile intercepted and destroyed a ballistic missile under combat conditions. A Patriot air defense missile destroyed an Iraqi Scud missile that was attacking a U.S. air base in Saudi Arabia. A reporter from the Los Angeles Times writes "The age of 'Star Wars' had arrived."
- Dec 5 1991** President George H. Bush signs the Missile Defense Act of 1991, which requires the Dept. of Defense to "aggressively pursue the development of advanced theater missile defense systems, with the objective to down selecting and deploying such systems by the mid-1990s."
A year later Congress amends the Act, placing more emphasis on treaty compliance and eliminating the target date of 1996 for deployment.
- May 13 1993** Secretary of Defense Les Aspin notes that the end of the Cold War means that the U.S. no longer faces the threat of a massive Soviet attack such as that the SDI program had concentrated on. Now, the U.S. faces theater ballistic missiles in the hands of Third World dictators.
- Jul 15 1998** The Rumsfeld Commission report to the Congress "Concerted efforts by a number of overtly or potentially hostile nations to acquire ballistic missiles with biological or nuclear payloads pose a growing threat to the United States, its deployed forces and its friends and allies. These newer, developing threats in North Korea, Iran and Iraq are in addition to those still posed by the existing ballistic missile arsenals of Russia and China. These newer ballistic missile-equipped nations' capabilities will not match those of the U.S. systems for accuracy or reliability. However they would be able to inflict major destruction on the U.S. within about five years of a decision to acquire such capability (10 years in the case of Iraq). During several of those years, the U.S. might not be aware that such a decision had been made."
- Mar 16-17 1999** Congress adopts the National Missile Defense Act of 1999 "to commit the United States to deploy a national anti-missile defense system as soon as technologically possible."
- Dec 13 2001** President George W Bush notifies Russia that the U.S. will withdraw from the Anti-Ballistic Missile Treaty, which paved the way to deploying the ground-based missile defense systems in Alaska and California.
- Sept 17 2009** President Obama announces that he is shelving the Bush administration's plans for a ground-based missile defense system, based in Poland and the Czech Republic. Instead he is focusing on a more flexible system including Aegis ships, a network of sensors and mobile land-based missiles.



International Outlook

Readings and excerpts from International Media on Nuclear Weapons Issues

Editor: Inge Axelsson, Pediatrician and Associate Professor, Mid Sweden University
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“The Nobel Peace Prize for 2009 ... for a world without nuclear weapons.”

“The Norwegian Nobel Committee has decided that the Nobel Peace Prize for 2009 is to be awarded to President Barack Obama for his extraordinary efforts to strengthen international diplomacy and cooperation between peoples. The Committee has attached special importance to Obama’s vision of and work for a world without nuclear weapons.”

Nobelprize.org http://nobelprize.org/nobel_prizes/peace/laureates/2009/press.html

Looking Backward and Forward

In Roman mythology, Janus was the god of gates and doors and also the god of beginnings and endings. He had two faces, looking in opposite directions. In “Homage to Janus,” Victor W Sidel and Barry S. Levy look backward and forward at the anti-war movement among physicians. They point to six challenges facing us: 1) Addressing the underlying causes of war; 2) Documenting the health consequences of war; 3) Minimizing the health consequences of war; 4) Reducing access to weapons; 5) Promoting nonviolent resolution of conflict; 6) Fostering a culture of peace. ICAN (International Campaign to Abolish Nuclear Weapons) works hard with issue 4), Reducing access to weapons. *Sidel VW, Levy BS. Homage to Janus: Looking backward and forward. Medicine, Conflict and Survival 2009;25(4):271–274.*

CTBT

All European countries, including the nuclear weapons countries France, Russia and the UK, have ratified the Complete Test Ban Treaty (CTBT). The treaty has been signed but not ratified by the nuclear weapons countries China, Israel and the USA, and of the threshold country Iran. Nuclear weapons countries India, North Korea and Pakistan have not signed the treaty. <http://www.ctbto.org/>

“Yes, we can”

President Barack Obama has made an *ambitious and impassioned pitch* to rid the world of nuclear weapons. Removing the forward-deployed tactical nuclear weapons in Europe seems like one of the more obvious first steps. In Prague on April 5, 2009, president Obama said:

“Some argue that the spread of [nuclear] weapons cannot be stopped, cannot be checked — that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable...So today, I state clearly and with conviction America’s commitment to seek the peace and security of a world without nuclear weapons. (Applause). I’m not naive. This goal will not be reached quickly – perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, ‘Yes, we can.’”

President Obama’s intentions are supported by Gordon Brown (PM, the UK) but not by the French President Nicolas Sarkozy. The German minister of foreign affairs Guido Westerwelle has told his American colleague, Hilary Clinton, that he wants to get rid of the tactical nuclear weapons in Europe, and he is supported by the governments of Belgium and the Netherlands.

Borger J. The Guardian 6 Nov 2009

Loretz J. peaceandhealthblog.com 2009 Nov 7

Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic. The White House, April 5, 2009. http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/

US Nuclear Weapons in Europe

The USA still has 200 tactical nuclear weapons in the following European countries: in Turkey 90 bombs; Italy 50; Belgium 20; Germany 20; and in the Netherlands 20 bombs.

All the bombs are gravity bombs for delivery by US or NATO aircrafts. During the Cold War, these weapons were used as a deterrent against a conventional Soviet attack on US European allies, but today their military utility and strategic value have diminished substantially. NATO currently includes all of the Central European countries plus the three Baltic States, (previously parties to the Warsaw Pact), and as for Russia, it is now a strategic NATO partner. Washington should therefore remove the weapons from Europe, thereby demonstrating its commitment to strengthening the non-proliferation regime. *van der Zwaan B, Sauer T. Bulletin of the Atomic Scientists 2009 (www.thebulletin.org)*

Illicit Trafficking of Nuclear Weapons

After nine-eleven (the attack on September 11, 2001), the US authorities have been worried by the enormous influx of containers on merchant vessels. A container could hold a nuclear device that might be exploded in a port. Different methods for detection of nuclear devices have been tested. The volume of container ship traffic is now so huge that x-ray scan is possible only for a fraction of them. An Italian study has tested passive detection of fissionable material using an activation foil of iridium; it will detect weak radiation from plutonium oxide. However, the content of other materials in the container could weaken the plutonium signal. It seems that the USA has a long way to go to efficiently detect nuclear devices in containers.

Janssens-Maenhout G et al. J Environ Radioact 2009 Oct 27. [Epub ahead of print]

Defining Risk, Motivating Responsibility and Rethinking Global Warming

“This paper breaks with the sociological notion of ‘risk society’ and argues in favour of a philosophical view that sees the two planetary threats of late modernity, nuclear weapons and global warming, as ultimate challenges to morality and politics rather than risks that we can take and manage” the Italian philosopher Furio Cerutti writes. He defines ‘risk’ as a harmful event where we can attach numeric values to the size of the expected loss (e.g. number of dead humans) and to the probability that the event will take place. If we have no figures for the event, Cerutti does not talk about *risk* but about *threat* or *hazard* facing us in a condition of uncertainty.

Cerutti notes that we accept *generational nepotism*: we are only ready to enforce changes and restraints as far as needed to protect the generations *currently* living, plus their children and grandchildren. There are, according to Cerutti, two ways to protect our planet. The first alternative is the theory of justice: we owe something to future generations out of the obligations that we accept—along with their consequences—when we undertake to build a just society without overusing nature. Cerutti, however, believes in the second alternative: “we cannot possibly allow ourselves to break up the *transgenerational chain of elementary solidarity* and fairness that has given and is supposed to continue to give every generation of parents a chance to take care of their children in an Earth that is still in an acceptable state.”

The difference between the two arguments is not quite clear to me but most of the essay is understandable and sensible. The meaning of life must include a hope for a meaningful life for coming generations. We need a living debate on our responsibilities for our planet.

Cerutti F. Sci Eng Ethics. 2009 Oct 2. [Epub ahead of print]

NUCLEAR-WEAPON-FREE ZONES — A SUCCESS STORY

Jan Prawitz



Jan Prawitz, Visiting scholar at the Swedish Institute of International Affairs. Formerly Special Assistant for Arms Control to the Minister of Defence of Sweden 1970-1992.

Nuclear-weapon-free zones have emerged as an important but largely unnoticed approach towards a nuclear-weapon-free world. The eight zones established so far cover some 50 % of the world's land areas, including 99 % of all land south of the equator and 74 % of all land outside nuclear-weapon state territory. These zones include 119 states and 18 other territories with some 1.9 billion inhabitants.

When the possible proliferation of nuclear weapons to more states became an urgent political problem in the 1950s, three different solutions were discussed. One was an Irish proposal that states without nuclear weapons should abstain from acquiring such weapons in the future and that nuclear-weapon powers should not transfer such weapons to any receiver whatsoever. This proposal was the basis for the agreement in 1968 on the Non-Proliferation Treaty (NPT). Today all states in the world but four are parties to the NPT. India, Israel, and Pakistan have never joined the NPT. North Korea became an NPT party in 1985 but withdrew in 2003

A second proposal, from Sweden, was named the Undén-plan after then-Minister of Foreign Affairs Dr Östen Undén, proposing the formation of a non-nuclear club of states where no nuclear weapons would be present and which states would be invited to join. The proposal was turned down as it did not fit the interests of the two military alliances in Europe during the Cold War.

The third was the idea that states could join together regionally to completely prohibit the presence of nuclear weapons in their regions, that is to establish so-called nuclear-weapon-free zones.

That idea was tabled for the first time in the United Nations in 1956 by the Soviet Union. One year later Poland proposed that four states in Central Europe — Poland, Czechoslovakia, East Germany, and West Germany — should establish such a zone. Those proposals were not accepted either because of the Cold War.

According to the NPT, non-nuclear-weapon states are prohibited from acquiring their own nuclear weapons, but they are not prohibited from hosting such weapons of others on their territories. As a consequence, Europe was stacked with nuclear weapons and partly still is, despite the fact that all European states became parties to the NPT. On the other hand, the NPT encourages the parties (Art. VII) to go beyond the treaty and to establish nuclear-weapon-free zones.

The first such zone was established in Antarctica in 1959, when this no-man's-land was regulated by international agreement. The objective was to prevent the Cold War from spilling over to the White Continent. Part of the agreement was to declare Antarctica as demilitarised and thus, by implication, denuclearised.

In 1963, Brazil proposed that Latin America and the Caribbean should become a nuclear-weapon-free zone. Agreement on the proposal — the Tlatelolco Treaty — was reached in 1967. The zone grew successively until its final entry into force in 2002. The zone includes large parts of the South Atlantic and the eastern Pacific Ocean. But the nuclear-weapon states declared that they did not intend to respect any nuclear-weapon-free status of sea areas of the zone, referring to international law and the principle of the freedom of the high seas.

In 1985, the member states of the South Pacific Forum were next to establish a nuclear-free zone in the South Pacific — the Rarotonga Treaty — ranging from Latin America to the west coast of Australia and from the Antarctic area(S 60°) to the equator. The treaty applies only to the land areas of participating states and not to the large sea areas of the zonal territory.

In 1990, a very special nuclear-weapon-free zone was established. According to the so-called 4+2 treaty among four victorious second world war states and the German Democratic Republic (DDR) and the Federal Republic of Germany regarding the reunification of the two Germans, nuclear weapons should not be stationed on the former DDR territory, despite the fact that unified Germany is a member of NATO, a nuclear-armed alliance.

In 1991, the two Korean states agreed to declare their peninsula a nuclear-weapon-free zone. That treaty entered into force the year after but has not been implemented and must now be considered dead. On the contrary, North Korea has since then test fired two nuclear explosive devices.

In 1995, ten ASEAN states agreed to establish a nuclear-weapon-free zone in South East Asia — the Bangkok treaty — including i. a. the archipelagic states of Indonesia and the Philippines.

That same year Mongolia declared itself a one-state nuclear-weapon-free zone based on internal legislation rather than international agreement. Mongolia got its nuclear-weapon-free status recognized by the United Nations' General Assembly in 2002.

In 1996, Africa was declared a nuclear-weapon-free zone at a conference in Cairo, the Pelindaba treaty, that formerly

NUCLEAR-WEAPON-FREE ZONES

entered into force in July 2009, despite the fact that all potential zonal states had not yet joined.

In 2003, five former Soviet republics that are now independent states in Central Asia — Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, and Kyrgyzstan — got together to establish a nuclear-weapon-free zone in their region — the Semipalatinsk treaty that entered into force in 2009. The names of the zone treaties indicate the places where they were negotiated.

To this could be added that quite a few small areas that were declared as demilitarised in the past, often long before the atomic bomb was invented, today could be considered denuclearised as well. Two such areas close to Sweden are the Norwegian Spitzbergen archipelago (1920) in the Arctic and the Finnish Aaland Islands (1921) in the Baltic.

Sometimes when reference is made to nuclear-weapon-free zones, two other treaties are mentioned, the contents of which are theoretically close to the zone concept. One is the Outer Space Treaty of 1967 prohibiting the placement of nuclear weapons and other weapons of mass destruction in satellite orbit around the Earth and on the moon and other celestial bodies. The latter could theoretically thus be considered nuclear-weapon free. The other is the Sea Bed Treaty of 1971 prohibiting the emplacement of nuclear weapons and other weapons of mass destruction on the sea bed, which likewise could be considered a nuclear-weapon free area.

It could also be mentioned that cities, counties, research institutions, and similar bodies sometimes have declared themselves nuclear-weapon-free zones. Such “zones” do not, however, have any status according to international law and should rather be considered expressions of opinion.

The history of nuclear-weapon-free zones has produced a lot of experience about the nature and content of the zone concept which has turned out to be very flexible and adaptable to local political and geographic peculiarities. The zone treaties frequently include a fair amount

of fine print. The main objective of zones, however, is to free a region from presence of nuclear weapons and from outside attack by such weapons. Comprehensive guidelines for “zone-making” were adopted by the UN General Assembly in 1999. A basic rule is that the initiative to establish a zone should come from inside the group of prospective zonal states.

Although the zones established so far are different in several respects, they do have some basic functions in common.

- I. Non-possession of nuclear weapons by zonal states.
- II. Non-stationing of nuclear weapons in the zone by any state.
- III. Non-use or non-threat of use of nuclear weapons throughout the zone and against targets within the zone to be guaranteed by the nuclear-weapon states.
- IV. A verification system to control the implementation of the zonal treaty.

The procedure for establishing nuclear-weapon-free zones has typically been very time consuming; several years or decades. The procedure may be the following: One state in the region takes the initiative. Prospective zonal states negotiate treaty provisions. After agreement, an entry-into-force procedure starts for every single zonal state and for the guarantee protocols to be signed by nuclear-weapon states. Different states may require different lengths of time. In that way, the zone is successively built up until all the relevant states adhere to all relevant commitments. During this time the zonal obligations could be assumed by the member states as they sign up.

An example in point is the establishment of the African zone. The proposal to establish that zone was introduced in the agenda for the UN General Assembly in 1961, in the first place to prohibit the suspected plans of the Republic of South Africa to acquire their own nuclear weapons. But real negotiations did not start until South Africa signed the NPT in 1991; incidentally, those negotiations

were led by South Africa. A treaty text was agreed in 1996 and entered into force in 2009, although the signatures of a number of zonal states are lacking.

All nuclear-weapon-free zones mentioned above have formally entered into force, but for some of them a few pieces remain to fall into place. For some of them, the nuclear-weapon powers have yet to sign the guarantee protocols. Nuclear-weapon powers invited to sign are the five acknowledged by the NPT — China, France, Great Britain, Russia, and the USA. India, Pakistan, and North Korea are sometimes considered *de facto* nuclear-weapon states, but they are not acknowledged by the NPT, they are not granted a nuclear-weapon state status by the world community, and they are thus not invited to sign the guarantee protocols. Nuclear-weapon powers and other extra-zonal states with dependent territories within the zonal areas have in several cases agreed that zonal commitments will apply also in their dependencies. This is true, for instance, for the British Falkland Islands and Virgin Islands and the American Puerto Rico and the Guantanamo naval base in Cuba plus French and Dutch colonies within the Latin American zone. This is true also for French Polynesia in the South Pacific and its dependencies within the African zone.

Many other nuclear-weapon-free zones have been proposed over the years but were not established for a variety of mostly political reasons. Major Western powers, in particular the USA, have declared a number of political conditions for supporting a proposed new nuclear-weapon-free zone project. One important condition is that a zone should not infringe upon existing security arrangements. All proposed zones located in Europe have thus been turned down, because membership in a nuclear-weapon-free zone has not been considered compatible with a simultaneous membership in NATO, the strategic concept of which implies an active participation in the nuclear roles of the alliance. Another condition is that zone

NUCLEAR-WEAPON-FREE ZONES

obligations should not infringe upon the rights according to international law regarding the freedom of the high seas and thus the right to bring along nuclear weapons onboard ships and aircraft. This condition has prevented an effective inclusion of sea areas in the zones. Inclusion of sea areas would also be difficult to negotiate as no state could legally represent the sea areas.

One proposed zone that never materialized was the one referring to Nordic Europe. The idea of a nuclear-weapon-free zone in “northern Europe” was first proposed in 1958 by then-prime minister of the Soviet Union, Nicolaj Bulganin, in letters to the prime ministers of the Nordic states. The proposal died, however, when the Nordic states asked the Soviet Union to clarify what parts of the western Soviet territory were intended to be included in the zone. The idea was reintroduced in 1963 by then-president Urho Kekkonen of Finland. The Kekkonen-plan referred to a zone including four states—Denmark, Finland, Norway, and Sweden. The objective was to exclude this area already free of any nuclear weapons from nuclear strategic speculations. But the proposal was turned down. Denmark and Norway were and still are members of NATO. When Dr Kekkonen reintroduced his proposal in 1978, the West Nordic areas — the Atlantic islands the Faroe Islands, Iceland and Greenland — added their interest in the project. But his proposal was turned down again this time for the same reasons. Since the fall of the Berlin wall in 1989, the proposal has not existed on the political agenda.

Another example is the proposal by Belarus in 1995 to separate the nuclear weapons of NATO and of Russia by means of a wide nuclear-weapon-free corridor from the Baltic Sea to the Black Sea. The envisaged area was not precisely defined but was at the time assumed to cover all territory earlier belonging to the Warsaw Pact west of the Russian Federation. Also this proposal was

turned down because several of the prospective zonal states were applying for membership in NATO.

Two other zone proposals have been on the international agenda for a long time — South Asia and the Middle East. The South Asia proposal — including the seven states of Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka — has had little success. Two prospective zonal states, India and

NUCLEAR-WEAPON-FREE AREAS

Demarcation of nuclear-weapon-free zones, nuclear-weapon-free status and nuclear-weapon-free geographical regions



Red : Land territory covered by nuclear-weapon-free treaties

Dark blue: Sea territory covered by nuclear-weapon-free treaties

www.un.org/disarmament/WMD/Nuclear/images/NWFZ_Map_small.gif

Pakistan, are today de facto nuclear-weapon states. Therefore, the proposal has mostly been a subject for political debate.

The proposal for a nuclear-weapon-free zone in the Middle East was introduced on the agenda of the UN in 1974 and has been recommended by the General Assembly every year since then — unanimously since 1980. The proposal is thus supported by all 23 prospective zonal states which are the members of the League of Arab states, Iran, and Israel. The proposal now has a priority position on most political agendas and is well researched and prepared. The concept of the zone proposal was widened in 1990 when president Mubarak of Egypt proposed a zone free of weapons of mass destruction in the Middle East, a concept later adopted by the UN General Assembly and the rest of the world community. Such a zone project would take care of two problem states in the area: Israel, widely assumed to be a nuclear-weapon state without ever having declared itself possessing such weapons; and Iran, suspected of preparing to

acquire nuclear weapons while insisting on the opposite. Half the proposed treaty area has already become nuclear-weapon-free as part of the African zone. But one obstacle remains. The timing! All prospective zonal states except Israel would prefer an early establishment of the zone in order to remove the weapons of mass destruction from the continued peace process in the Middle East. Israel has a different security problem than all the others, and insists that the establishment of the zone should crown the final and successful conclusion of the peace process.

Finally, the proposal for a nuclear-weapon-free Arctic could be mentioned. This idea has been discussed for many years, particularly in Canada, but has now gained a wider interest along with the global warming and the subsequent melting polar ice making the area more accessible. But the proposed project would probably be difficult to negotiate. Among the eight states immediately concerned — Canada, Denmark (Greenland), Finland, Iceland, Norway, Russia, Sweden, and the USA (Alaska) — two are nuclear-weapon states and five are members of NATO. In addition, a large part of the prospective zone is a sea area.

As the NPT after 40 years in force has got an almost complete participation, the growing number of nuclear-weapon-free zones is now the dynamic element of the non-proliferation regime. The establishment of further zones is regularly encouraged by the review conferences of the NPT-parties every five years. The zones so far include 74 % of all land outside the territories of the nuclear-weapon powers acknowledged by the NPT. The remaining 26 % include primarily Canada and Greenland in the Western Hemisphere, and NATO-Europe, the Asian part of the Middle East, South and Northeastern Asia of the Old World. And not to be forgotten, all seas and oceans covering some 70 % of the surface of the earth.

REACHING NUCLEAR DISARMAMENT

– from visions to reality

Henrik Salander



Ambassador Henrik Salander is chairperson of Middle Powers Initiative. He was earlier Sweden's Ambassador to the Geneva Conference on Disarmament (1999-2003) where he authored the 2002 "five ambassadors" compromise proposal that is still the basis for efforts there to start negotiations on a fissile materials cut-off treaty and other treaties. He has also served as Deputy Director-General of the Swedish Ministry for Foreign Affairs.

In November 2000, two things coincided: first, the New Agenda resolution, with the thirteen steps, got an overwhelming UN majority and a yes vote from the United States; and second, the world did not know for many weeks whether Al Gore or George Bush had won the presidential election days before. The first thing was a display of United States leadership together with forward-looking middle power countries; the second, not known at the time, was the start of eight years of retrogression in nuclear non-proliferation and disarmament. Now, nine years later, things are different. US leadership is back, starting in Prague in April 2009 with President Obama's speech. The spark may have been lit as early as in January 2007 in the Wall Street Journal by four elder US statesmen claiming the necessity of total nuclear abolition.

Self-proclaimed "realists" maintain that a nuclear-weapons-free world is a visionary dream, impossible in reality: nuclear weapons cannot be un-invented and a world government is needed before nuclear weapons can be eliminated. Both arguments are beside the point. Of course the scientific knowledge itself cannot be undone, but the weapons can be controlled and prohibited and, after that, breakout capacity¹ can also be controlled – not easy, but possible. Furthermore, the weapons will not be eliminated by a utopian all-powerful world government, but by key states with responsible leaders once they recognize, in their self-interest, that continued deterrence is much riskier for them than leaving reliance on nuclear weapons behind. This process has already been started, first informally by retired leaders in several countries, and recently formally by Presidents Obama, Medvedev and others.

Governments have created instruments intended to control the only invention that can destroy mankind itself instantly. The most important of these instruments is the Nuclear **Non-Proliferation Treaty** (NPT), which hangs on, decade after decade, having refused to disintegrate, as has sometimes been predicted.

Pessimistic forecasts

Before each NPT Review Conference (RevCon) there have been pessimistic forecasts. Sometimes they have been met, as in 2005. Sometimes they have not, as in 2000. There are opportunities and challenges every time, and they are taken or missed, met or frustrated.

Between the important reviews in 1995 and 2000 there were some bright signs globally: the NPT had been extended indefinitely and seemed to hold up well; no nuclear tests had taken place for a while; an entry-into-force of the nuclear test ban seemed possible; and the fissile material negotiations in Geneva were close to starting. In 1998, however, the Indian and Pakistani nuclear tests overturned this. Furthermore, the nuclear test ban treaty was defeated in the US senate, and the fissile material negotiations drowned in the quagmire in Geneva. Once again it became clear that multilateral negotiations between nuclear-weapon states (NWS) and non-nuclear-weapon states (NNWS) are unbalanced, with the status quo leaning in favour of the NWS and the burden of proof resting with the NNWS.

Unexpected success in 2000

In 2000 the situation again changed: the NPT RevCon unexpectedly ended in a consensus agreement, containing thirteen practical steps towards fulfilling Article VI². This was one of the few occasions in recent decades where the *nuclear haves* and *have nots* did not speak in monologues but actually tried to create mutual benefit via a dialogue. The success turned out to be short-lived, but this soon-to-be-ten-years old agreement is still valid.

What do the monologues say? The NWS regard non-proliferation as the decisive element, whereas the NNWS view disarmament as the neglected part of the bargain. The NWS' rhetoric does not admit this stance, whereas the NNWS point to the double standards of the NWS.

Frustration among non-nuclear states

Things would be clearer if NNWS were to speak with a unanimous voice. Some of them take very principled positions, whereas others are more pragmatic. Some are NATO members, or US allies outside NATO; many others are non-aligned. Some are in regional conflicts. Some are very big and influential, such as Indonesia, Germany, Egypt, Brazil, and South Africa; many are small. Only a few of them may want nuclear weapons, but most of them are frustrated, even those that do not feel directly threatened by nuclear weapons.

This frustration got its strongest expression in 1995, when the indefinite extension of the NPT would not have taken place without specific pledges from the NWS regarding the road to fulfilling Article VI and resolving the Middle East issue. Pledges were given by the nuclear five on fissile material non-

¹ The risk of a state in a nuclear weapons free world secretly acquiring nuclear weapons is usually referred to as the breakout problem

² Article VI of the NPT: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control."

NUCLEAR DISARMAMENT

production (FMCT), on a comprehensive test ban (CTBT), and on systematic and progressive efforts towards meeting Article VI. Concessions were made again in 2000, but little has happened thereafter to make good on the promises. Cuts in numbers have certainly been made, but for most NNWS it does not matter much whether the nuclear five have 6,000, 2,000 or 200 warheads each, as long as the role of nuclear weapons in security policies remains the same, or worse.

On these three parts — FMCT, CTBT and meeting Article VI — some agreements will be necessary in 2010, making it clearer what kind of multilateral process the nuclear five are willing to undertake. If FMCT negotiations are not started, and progress is not made on CTBT entry into force, this amounts to continued breaking of political pledges made fifteen years ago.

Therefore, it is not promising that there are active efforts in the US to tie test ban treaty ratification to commitments to new warheads and production facilities, based on the rationale of maintaining reliable weapons without testing. It is also worrying that the fissile material negotiations may take a narrow approach to a treaty, and that the Conference on Disarmament (CD) is in danger of being inactive again.

The 13 steps of NPT 2000

The so-called “systematic and progressive efforts” (from 1999) were reawakened in 2000 and resulted in another important heritage, the thirteen steps. How to treat them next year is a challenge with many unknowns: not only how much the Obama administration’s actual positions will be changed when it comes down to the detail, but also how much Russia, France and China will try to hold back regarding new — and old — Article VI-related recommendations, guidelines and decisions. Signs in the PrepCom were not promising, but everything starts anew in May.

A few of the thirteen steps are a bit dated or overtaken by events, but they cannot be rolled back or thrown away. A credible way of renewing and updating them must be found. This will be much up to the NWS, which will be put in a corner if they do not propose reformulations of some of the commitments and pledges, making them relevant for today.

Equally important, however, and in a sense new since 1995 and 2000, is the “diminishing role” of nuclear weapons. In 2000 this became only a sub-step under step 9, guarded by the umbrella of “international stability” and “undiminished security for all”. This time, some clear expression is needed about the NWS’ ambitions to downgrade reliance on nuclear weapons. In the case of the United States and the Obama administration, the forthcoming Nuclear Posture Review will be a decisive reference point. Therefore, it is important that the cynical doctrinal concepts of counterforce and counter-value are not kept as parts of the nuclear doctrine.

The challenge of the negotiating format

An organized and representative structure for the production of an agreement will be needed for a successful NPT RevCon. In 2000, the outcome was determined by a direct negotiation between the nuclear five and the seven-country New Agenda Coalition during the final few nights. This will not happen again, for the simple reason that other countries will not accept standing outside closed doors, unable to affect the outcome. In 2000, the nuclear five needed a credible and representative counterpart, and the NAC was the only possible one. This is no longer the case.

In 2000, this may even have been a kind of mistake on the part of the NWS. If they had invited all countries that wanted to take part — and there were many of them — they would have had a less coherent counterpart. In fact, the cohesion and discipline of the NAC was surprising. The seven delegations knew each other’s limits in great detail. This made it possible for them to support each other rather than compete for goods in the eventual outcome. Therefore, a real question before May will be whether other countries outside of NAC, as well as the seven themselves, will be as coordinated as they were ten years ago. The five NWS will definitely look for a counterpart, perhaps hoping that it is not as well prepared as in 2000. With a large and uncoordinated counterpart group, the nuclear five will be able to divide and rule, as has happened before.

US leadership

US leadership can create the conditions for starting on the road to zero. And President Obama has made that clear. He even recognized the moral responsibility of the US to act and lead, as the only power to have used a nuclear weapon. This is a great statement, generating hope and promise. The next test of it will come in only a few weeks, when the Nuclear Posture Review will be published in Washington. That review and its successors must recognize the new situation and make a new calculus of the balance between status quo risks and the difficulties of the road to zero.

We must understand that the countering forces to the President’s vision will be strong and very sophisticated, both in the US and in other states. These forces have inertia and inactivity on their side. In both governments and civil society, therefore, we must sharpen our arguments and our activities.

After the Prague speech and the Security Council Summit, a realization is spreading that nuclear weapons create insecurity rather than security and that reliance on them has to be phased out. This must be done through a number of steps. The first three steps are: verified deep reductions by US and Russia, including stored weapons, with legally binding instruments, and planning for further cuts; a negotiated fissile material

production stop; and getting the test ban into force. They can be described as consensus steps, agreed but not realized by NPT parties, over the fourteen years since 1995.

There are a number of other steps that are equally necessary but also are not sufficient, and which do not yet meet with consensus. Like the first three, they have been analyzed by the *Middle Powers Initiative* and identified as priorities in our Article VI Forums. Examples are: negative security assurances; multilateral regulation of the fuel cycle; de-alerting of launch-ready weapons; no-first use pledges; and improved governance of the NPT as a process and as a treaty. These, too, have been around for decades. They are variations of what has been proposed in UN resolutions, in the thirteen steps, by the Canberra Commission and the Blix Commission, in the Global Zero project and the Model Convention, in the Wall Street Journal articles, by the UN Secretary-General one year ago, and by President Obama in Prague.

Why are all these proposals and packages so similar? Because they are the natural first steps for securing confidence and restoring the bargain between nuclear possessors and non-possessors. However, the package outlined by the UN Secretary-General in five points differs somewhat from the others. He went further than governments, holding up the possibility of a strongly verified nuclear weapons convention, or a framework of interlocking instruments. He lifted the debate and at the same time elevated the convention from a slightly utopian idea to a logical instrument for strengthening the security of nations.

Governments, both nuclear and non-possessors, have difficult analyses and decisions in front of them. One task for the MPI is to point to options for those decisions, especially for influential non-nuclear weapon states. In a paper, *Making Good on the Promises – from the Security Council Summit to the 2010 NPT Review*, the MPI discusses how US-Russia negotiations could facilitate future multilateral negotiations, and why the US CTBT ratification should not be coupled to modernization of warheads or infrastructure. In particular, we advise middle powers to state clearly that “extended deterrence” is not a justification for an expansive role of nuclear weapons. NATO non-nuclear members also have an important task in updating the NATO nuclear doctrine, reconciling it with disarmament goals.

Securing confidence between nuclear possessors and non-possessors

Non-nuclear-weapon states have played an important role. Before the CTBT, for example, some of them did technical work on verification long before the CD had a negotiating mandate. This work was led by Sweden. Norway is working with the UK on verification of nuclear disarmament and Canada has

established the Centre for Treaty Compliance. Finally, other middle powers drive resolutions through the UN's normative processes, an important preparatory phase. There are many other possibilities to explore that can help develop various aspects of a regime for zero, even before the nuclear weapon states are ready to start full negotiations.

Civil society engagement

It has been proven over several decades that civil society can play an influential role in nuclear weapons issues. This was confirmed recently in the big NGO conference in Mexico City which made an input to Security Council members before the Summit last September. The Secretary-General has lent his authority to this approach, as have parliamentarians, legislatures, and governments. Swedish NPT RevCon delegations, as an example, always contain a civil society representative. The Middle Powers Initiative is but one example of those diverse roles. It is sponsored by and works with eight global NGOs active in nuclear disarmament and with very public roles. MPI itself, however, works more behind the scenes with diplomats and governments.

One example of NGOs' influence and productive work is the Model Nuclear Weapons Convention. Three of MPI's sponsoring organizations have collaborated on a detailed investigation into what is required from a nuclear weapons convention. In a document, *Securing Our Survival*, all the crucial problems are tackled: enforcement, the international security system, the problem of breakouts, deterrence, verification, nuclear knowledge and reversibility, and finally economic aspects.

Negotiators and diplomats tend to think of a convention as something that takes away focus from more immediate steps. Although the first steps will require years of negotiations, the draft convention has a role even today. It leads directly to the central issues, helping us to focus on the steps to be taken after the packages that governments agree upon. I am deeply grateful to the MPI partners and to Rebecca Johnson for their engaged work. Civil society is our “hot line” to the neglected part of the nuclear weapons dilemma: the ethical dimension. Mankind must reach enough moral maturity to rid itself of the self-invented means of destroying itself. The nuclear weapons era must be a parenthesis in the history of mankind. Civil society has a lot to do.

This article is an adapted version of a speech made by Henrik Salander at the Stockholm conference Reaching Nuclear Disarmament in November 2009. The complete speech can be downloaded at <http://nucleardisarmament.se/>



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DEADLY CLIMATE CHANGE FROM NUCLEAR WAR: A THREAT TO HUMAN EXISTENCE

Steven Starr

The detonation of a tiny fraction of the operational nuclear arsenals within cities would generate enough smoke to cause catastrophic disruptions of the global climate¹ and massive destruction of the protective stratospheric ozone layer.² Environmental devastation caused by a war fought with many thousands of strategic nuclear weapons would quickly leave the Earth uninhabitable.³

Deadly climate change and massive ozone destruction from nuclear war

Nuclear detonations within urban and industrial areas would ignite immense firestorms which would burn everything imaginable and create millions of tons of thick, black smoke. Much of this smoke would rapidly be lofted above cloud level, into the stratosphere, where it would block warming sunlight from reaching the lower atmosphere and surface of the Earth. Sunlight would then markedly heat the upper atmosphere and cause massive destruction of the protective ozone layer, while darkness below would produce average surface temperatures on Earth characteristic of those experienced during an Ice Age.

The darkness and global cooling predicted to result from nuclear war (along with massive radioactive fallout, pyrotoxins, and ozone depletion) was first described in 1983 as “nuclear winter”.⁴ These initial studies estimated the smoke from nuclear firestorms would stay in the stratosphere for about a year. However in 2006, researchers using modern computer models found the smoke would form a global stratospheric smoke layer that would last for ten years.⁵

The longevity of such a smoke layer would allow much smaller quantities of smoke than first predicted in the 1980’s to have a great impact upon both global climate and atmospheric ozone which blocks ultraviolet (UV) light. Thus scientists predict that even a “regional” nuclear conflict could produce enough smoke to significantly cool average global surface temperatures, reduce precipitation, and vastly increase the

amount of dangerous UV light reaching the surface of Earth.

In other words, a nuclear war fought between such nations as India and Pakistan would produce enough smoke to make the blue skies of Earth appear grey. Although the amount of sunlight blocked by this smoke would not produce the profound darkening of the Earth predicted in a nuclear winter (following a nuclear war fought with thousands of strategic nuclear weapons), the deadly climate change created by the *regional* conflict would likely have devastating *global* effects upon all human populations through its negative influence upon agriculture.⁶

Nuclear war fought with hiroshima-size (15 kiloton) low-yield nuclear weapons.

In 2006, U.S. researchers used a NASA computer model (Model 1E, also used for the Intergovernmental Panel on Climate Change to predict global warming) to evaluate the effects of a regional nuclear war fought in the sub-tropics.⁷ 50 Hiroshima-size nuclear weapons (15 kilotons per weapon) were detonated in the largest cities of each combatant nation (100 total detonations).

The studies predicted the nuclear explosions would kill 20 million people in the war zone, the equivalent to half of all the people who died during World War II. The conflict would also significantly disrupt global climate. Up to 5 million tons of smoke from burning cities would quickly rise above cloud level into the stratosphere, and within 2 weeks would form a global stratospheric smoke layer which would remain in place for

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2 M. Mills, O. Toon, R. Turco, D. Kinnison, R. Garcia, “Massive global ozone loss predicted following regional nuclear conflict”, Proceedings of the National Academy of Sciences (USA), Apr 8, 2008, vol. 105(14), pp. 5307-12.
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4 R. Turco, O. Toon, T. Ackermann, J. Pollack, and C. Sagan, “Nuclear Winter: Global consequences of multiple nuclear explosions”, Science, Vol. 222, No. 4630, December 1983, pp. 1283-1292.
5 A. Robock, L. Oman, G. Stenchikov, “Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences”, Journal of Geophysical Research – Atmospheres, Vol. 112, No. D13, 2007. p. 4 of 14.
6 I. Helfand, “An Assessment of the Extent of Projected Global Famine Resulting From Limited, Regional Nuclear War”, 2007, International Physicians for the Prevention of Nuclear War, Physicians for Social Responsibility, Leeds, MA.
7 In 2009, India and Pakistan were estimated by the NRDC (Natural Resources Defense Council) to have a total of 140 to 160 operational nuclear weapons, and there are 32 other non-nuclear weapon states which have sufficient fissionable nuclear materials to construct weapons, some in a relatively short period of time.

about 10 years.⁸

The computer models estimated this smoke layer would block 7–10% of warming sunlight from reaching the surface of the Earth. Average surface temperatures beneath the smoke would become colder than any experienced during the last 1000 years. There would be a corresponding shortening of growing seasons by up to 30 days and significant reductions in average rainfall in many areas, with a 40% decrease of precipitation in the Asian monsoon region.⁹

Such rapid and drastic climate change would have major impacts on global grain reserves, which already are at 50 year lows.⁹ Grain exports would likely cease for several years from large exporting nations like Canada.¹⁰ The 700 million people now living on the edge of starvation, along with those populations heavily dependent upon grain imports, would face mass starvation as grain reserves disappeared, prices skyrocketed and hoarding occurred. Global nuclear famine is the predicted result of this scenario. As many as one billion people could die during the years subsequent to the deadly climate change created by this level of nuclear conflict.¹¹

Stratospheric ozone destruction and increased levels of harmful ultraviolet (UV-B) light

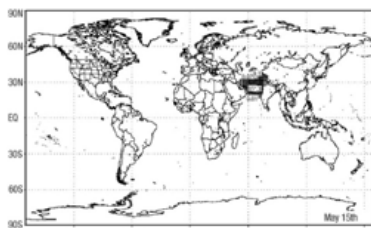
A stratospheric smoke layer would also cause massive destruction of the protective ozone layer. Studies in 2008 predicted smoke from a regional nuclear conflict (as described above) would create ozone losses of 25–45% above mid latitudes, and 50–70% above northern high latitudes persisting for 5 years, with substantial losses continuing for 5 additional years.¹² Severe ozone depletion would allow intense levels of harmful ultraviolet light (UV-B) to reach the surface of the Earth – even with the stratospheric smoke layer in place.

Global stratospheric ozone levels would fall to near those now seen only over Antarctica during the formation of the “ozone hole”. The UV index in the northern mid-latitudes would increase by 42–167%, which would cause fair skinned people to suffer sunburn in as little as 7 minutes.¹³

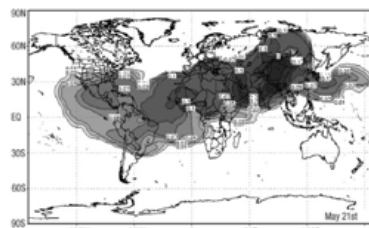
Massive increases of UV-B light would clearly have negative impacts upon marine and terrestrial ecosystems, yet no research is being done to investigate the consequences of such a scenario. Likewise, no studies using modern climate models have yet been

REGIONAL NUCLEAR WAR BETWEEN INDIA AND PAKISTAN

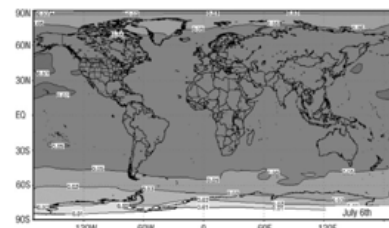
100 HIROSHIMA-SIZE (15 KILOTON) NUCLEAR WEAPONS DETONATED IN URBAN AREAS



Day 2: smoke enters stratosphere



Day 8: global smoke layer forms



Day 64: 10% of sunlight blocked

100 nuclear explosions create massive firestorms in the cities of India and Pakistan. 5 million tons of smoke rises above cloud level into the stratosphere and forms a global smoke layer which will remain in place for 10 years. The smoke will block 7–10% of sunlight from reaching the surface of the Earth. Loss of warming sunlight creates the coldest average surface temperatures on Earth in the last 1000 years. Prolonged cold acts to reduce average precipitation by 40% in some regions. Smoke acts to destroy 25–45% of the protective ozone layer above the populated mid-latitudes and 50–70% of the ozone above the northerly latitudes, allowing massive amounts of harmful UV light to reach marine and terrestrial ecosystems. The sun will burn human skin in as little as 7 minutes in the northern mid-latitudes.

The decreases in average temperature, precipitation, sunlight and stratospheric ozone will act to significantly shorten growing seasons and markedly reduce agricultural production for several years. Conditions would then slowly return to normal over a period of about a decade. Given that world grain reserves are now only adequate to sustain human populations for about 30 to 50 days, it is likely that prolonged and severe food shortages will result from such drastic changes in global climate. Those human populations already living at the verge of starvation and dependent upon imported food supplies will be at extreme risk of famine and starvation if grain exports from North America and Eurasia are suddenly halted by Ice Age weather conditions. It has been estimated that up to 1 billion people could starve to death in the years following this regional nuclear conflict.

CREDITS

The smoke images were created by Dr. Luke Oman of Rutgers University and are reproduced with his permission. The data on deadly climate change from regional nuclear conflict is taken from “Climatic consequences of regional nuclear conflicts”, by Robock A., Oman L., Stenchikov G., Toon O. B., Bardeen C., and Turco R., *Atmospheric Chemistry and Physics*, Vol. 7, 2007, p. 2003-2012; the data on ozone depletion is from “Massive global ozone loss predicted following regional nuclear conflict”, by Mills M, Toon O, Turco R, Kinnison D, Garcia R (2008). *Proceedings of the National Academy of Sciences (USA)*, Apr 8, vol. 105(14), pp. 5307-12; data on famine, I. Helfand, *An Assessment of the Extent of Projected Global Famine Resulting From Limited, Regional Nuclear War, 2007*, International Physicians for the Prevention of Nuclear War, Physicians for Social Responsibility, Leeds, MA

8 Robock, et al., “Climatic consequences...”, op. cit., p. 2003-2012.

9 Ibid.

10 Starr, S., “Catastrophic Climatic Consequences of Nuclear Conflicts”, INESAP Bulletin 28, April 2008, Figure 1.

11 Helfand, I., op. cit.

12 M. Mills, et al, “Massive global ozone loss . . . op. cit.

13 Personal correspondence with Dr. Paul Newman of NASA, Nov. 20, 2009.

CLIMATE CHANGES

done to assess ozone depletion following larger nuclear conflicts fought with high-yield strategic nuclear weapons.

Nuclear war fought with high-yield strategic nuclear Weapons¹⁴

The high-yield strategic nuclear weapons in the operational arsenals of the U.S. and Russia have a combined explosive power at least 500 times greater than the low-yield weapons detonated in the regional war conflict. A large fraction of these strategic weapons are kept on high-alert status (in 2009, more than 2000 U.S. and Russian strategic warheads were on high-alert).¹⁵ Virtually all their land-based intercontinental ballistic missiles are kept ready to launch within 30 seconds to 3 minutes, apparently operating under the policy of Launch-On-Warning.¹⁶

In 2008, scientists predicted the detonation of 4400 strategic nuclear weapons in large cities could cause 770 million prompt fatalities and produce up to 180 million tons of thick, black smoke.¹⁷ Ten days after detonation, the smoke would

form a dense global stratospheric smoke layer which would block about 70% of warming sunlight from reaching the surface of the Northern Hemisphere and 35% of sunlight from reaching the Southern Hemisphere.¹⁸

The resulting nuclear darkness would cause rapid cooling of more than 20° C (36° F) over large areas of North America and of more than 30° C (54° F) over much of Eurasia (Figure 2). Daily minimum temperatures would fall below freezing in the largest agricultural areas of the Northern Hemisphere for a period of between one to three years. Average global surface temperatures would become colder than those experienced 18,000 years ago at the height of the last Ice Age.¹⁹

The cooling of the Earth's surface would weaken the global hydrological cycle and the Northern Hemisphere summer monsoon circulations would collapse because the temperature differences that drive them would not develop. As a result, average global precipitation is predicted to decrease by 45%.²⁰ The cumulative effects of deadly climate change and ozone destruction would *eliminate* growing seasons for more than a decade.

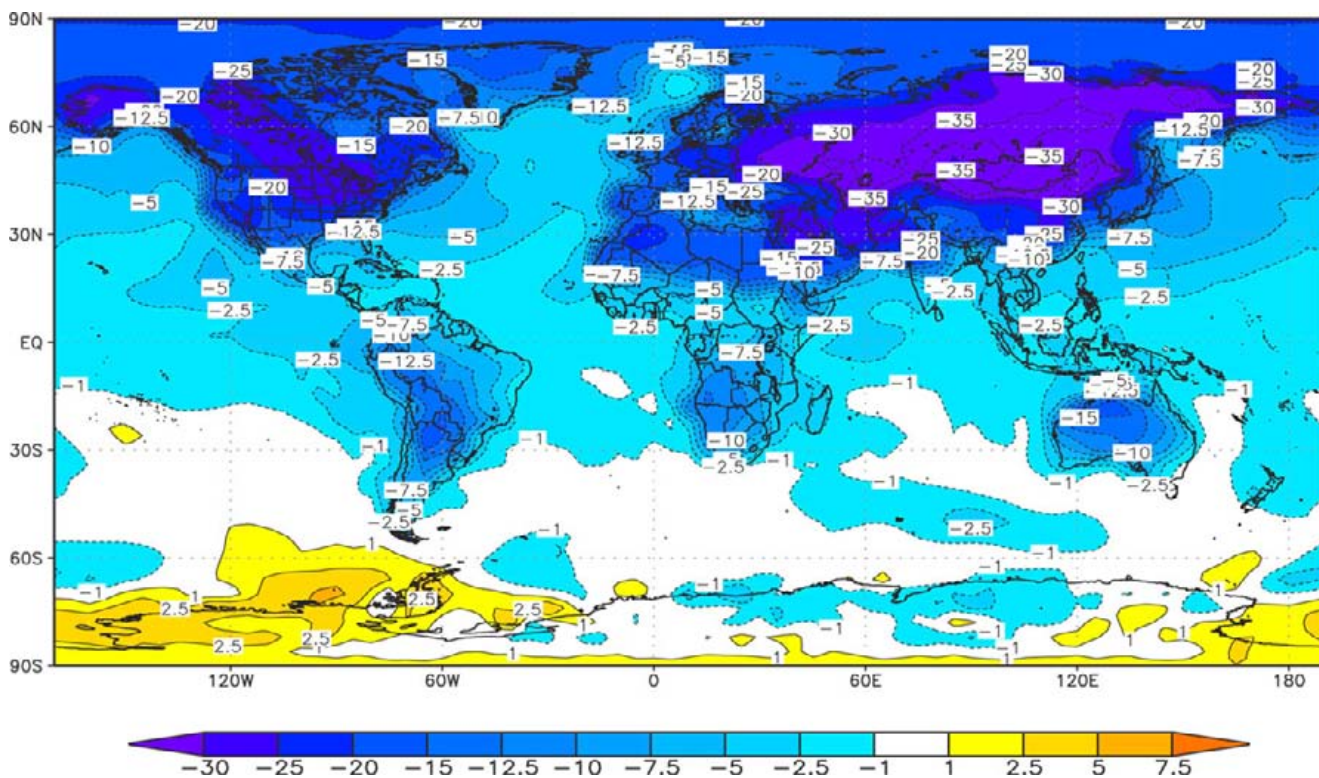


Figure 2: Surface Air Temperature (degree C) changes averaged for June, July, and August in the year after 150 million tons of black smoke forms a global stratospheric smoke layer.²³

14 High-yield weapons are generally 8 to 75 times more powerful than low-yield Hiroshima-size weapons.

15 S. Starr, "High-Alert Nuclear Weapons: the Forgotten Danger", SGR Newsletter, Autumn, 2008, p.1.

16 Launch-On-Warning (LOW) is a responsive or reflexive launch of nuclear weapons after Early Warning Systems (EWS) identify what is believed to be an incoming nuclear attack of nuclear-armed ballistic missiles, but before the hostile nuclear attack is confirmed by one or more nuclear detonations which occur in the time(s) and place(s) predicted by EWS data. High-alert nuclear-armed ballistic missiles, EWS and nuclear command and control systems, all working together, provide the U.S. and Russia the capability to implement LOW. The combination of LOW capability with LOW policy has created what is commonly referred to as launch-on-warning status.

17 O. B. Toon et al, "The Environmental Consequences of Nuclear War", p. 38.

18 Personal correspondence with Dr. Luke Oman of NASA, Dec. 1, 2008.

19 A. Robock, et al, "Nuclear winter revisited . . . op. cit., p. 6 of 14.

20 Ibid.

21 Ibid, p. 6 of 14.

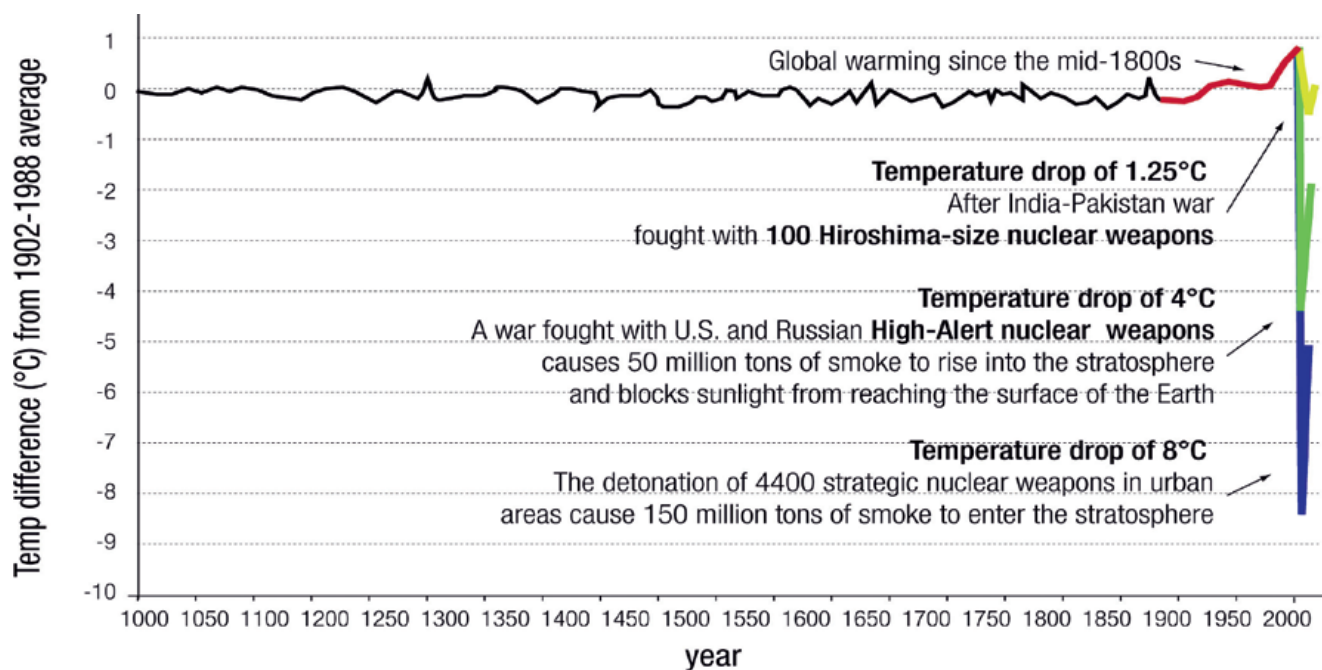


Figure 3: Northern Hemisphere average surface air temperatures during the last 1000 years contrasted with forecast temperature drops from a range of nuclear conflicts.²⁴

Catastrophic climatic effects lasting for many years would occur in regions far removed from the target areas or the countries involved in the conflict.²¹ Under such conditions, it is likely that most humans and large animal populations would die of starvation.²²

Conclusions

The scientific studies summarized in this paper make it clear that the environmental consequences of a “regional” nuclear conflict could kill hundreds of millions of people far from the war zone. Deadly climate change caused by a war fought with the strategic nuclear arsenals of the U.S. and Russia would threaten the continued survival of the human species.

Yet neither the U.S., nor Russia, nor any other nuclear weapons state has ever officially evaluated what effects a war fought with their nuclear arsenals would have upon the Earth’s climate and ecosystems.²⁵ Surely it is time for such evaluations to be openly conducted and made subject to public discussion. Nations with nuclear weapons should be required to create Environmental Impact Statements on the likely results of the detonation of their arsenals in conflict.

Deadly climate change from nuclear war must become a primary topic in the debate about the need for “a world without nuclear weapons”. This discussion must include the dangers posed by the nuclear arsenals of *all* nations, including

those in the U.S. and Russia. A failure to recognize and describe the apocalyptic potential of strategic nuclear arsenals will prevent the abolition discussion from developing the sense of urgency needed to bring about fundamental change in the nuclear status quo.

The nuclear weapons which are kept ready for virtually instant use constitute a well-maintained self-destruct mechanism for the human race. What political or national goals can possibly justify the existence of such a threat? There can be no “victory” in universal suicide.

Therefore, the U.S. and Russia must recognize the senselessness of continued preparations for a nuclear war, or a “successful” nuclear first-strike, which would make the whole world – including their own country – uninhabitable. It is imperative that they renounce the first use of nuclear weapons, stand-down their high-alert nuclear forces (which make accidental nuclear war possible through launch-on-warning postures),²⁶ and dismantle the tens of thousands of nuclear weapons in their active and reserve arsenals.

Nuclear weapons cannot ultimately provide “national security” when a single failure of nuclear deterrence can end human history. Unless deterrence works perfectly forever, nuclear arsenals will eventually be used in conflict. We must abolish these arsenals – before they abolish us.

22 O. B. Toon et al, “The Environmental Consequences of Nuclear War”, op. cit. p. 37.

23 Robock et al., “Nuclear winter revisited...”, op.cit., Figure 4.

24 Starr, S., “Catastrophic Climatic Consequences of Nuclear Conflicts”, Updated 2009 version (from INESAP Bulletin 28, April 2008), Fig. 1, <http://www.nucleardarkness.org/warconsequences/catastrophicclimaticconsequences/>

25 There are also other important considerations which must be made when estimating the environmental and ecological impacts of nuclear war. These include the release of enormous amounts of radioactive fallout, pyrotoxins and toxic industrial chemicals into the ecosystems.

26 A. Phillips, S. Starr, “Change Launch on Warning Policy”, Moscow Institute of Physics and Technology Center for Arms Control, Energy and Environmental Studies, 2006; www.armscontrol.ru/pubs/en/change-low.pdf

MEDICAL STUDENTS WORKING FOR A NUCLEAR WEAPONS FREE WORLD



Photo: Inga Blum

Portugal 2007: European students demonstrate the effects of a nuclear attack on Porto



Photo: Wenjing Tao

Iran 2007: Iranian and Swedish students on the mountain Tochal, holding a workshop on Nuclear Weapons Basics



Photo: Åsa Lindström

London 2007: "Have you ever considered the consequences of a nuclear attack here in London?" Norwegian student Margrethe talks with passers-by about nuclear weapons



Photo: Jonne van Koot

The Netherlands 2008: Dutch students try to start a debate about NATO's nuclear weapons at the base Volkel



Photo: Andreas Toif

India 2008: Students marching for peace in Ludhiana.

“The nuclear bomb is the most anti-democratic, anti-national, anti-human, outright evil thing that man has ever made. If you are religious, then remember that this bomb is Man’s challenge to God. It’s worded quite simply: We have the power to destroy everything that You have created. If you’re not religious, then look at it this way. This world of ours is four thousand, six hundred million years old. It could end in an afternoon.”

Arundhati Roy

From “The end of imagination”, The Guardian (UK) 1998)

Indian writer Arundhati Roy protesting against nuclear tests on the Indian Peninsula



ONLY PREVENTION IS EFFECTIVE

Jan Larsson

Throughout recorded history, human beings have used their ingenuity to make daily living easier but also to make war more effective. The aim of warfare is to destroy and create disorder. The sword used by the medieval warrior and the Roman war machine are examples of technical progress in the art of doing harm to humans and destroying the works of man. Such progress was welcomed by those who possessed a new weapon and was feared by its potential victims. The sense of power given to the possessor of a superior weapon can be overwhelming. Robert J. Oppenheimer, scientific leader of the Manhattan Project, on witnessing the first atomic detonation in the Nevada desert, recalled the words of the Hindu god Vishnu: “Now I am become Death, destroyer of worlds.”

At some time in the close or distant future, a nuclear explosion may occur—

as the result of a terrorist action, a human error, or an intentional military decision. Those who happen to be in the vicinity of such an explosion will be the victims of mechanical and thermal trauma as well as the effects of radiation, all three having the potential to inflict deadly harm to their bodies.

It is an important task for physicians to describe the medical effects of nuclear weapons. The aim, however, is not primarily to make us better prepared to take care of the victims of a nuclear holocaust. Instead it is to make people understand that prevention is the only cure available; that we, as doctors, must keep on talking about the medical consequences of nuclear war. We must see to it that all negotiations about nuclear weapons are pursued against a background of solid knowledge about the effects of such weapons, about the kind of harm done and the magnitude

of the destruction, the number of people killed and harmed.

Nuclear weapons are a violation of our sense of reverence for human life. Doctors have a special obligation to remind people of this moral fact. By meeting ill or hurt people in their daily work, they have the necessary prerequisites to understand what it was like to be one of the few surviving doctors in Hiroshima. Or what it will be like to meet some of the people, more than one million in numbers, who will be seriously hurt by an attack on Moscow or New York with today’s nuclear weapons. Health care in such situations will face insurmountable challenges in trying to help those injured.

Read about the medical effects of nuclear weapons at:
www.learnaboutnukes.org.



Jan Larsson, President Swedish Physicians against Nuclear Weapons, is a consultant anaesthetist at Uppsala University Hospital

NPT 2010 REVIEW CONFERENCE: WHAT YOU CAN DO TO HELP MAKE IT A SUCCESS

Ray Acheson



Ray Acheson is the Director of Reaching Critical Will, a project of the Women's International League for Peace and Freedom. Ray previously worked with the Institute for Defense and Disarmament Studies on its flagship journal, *the Arms Control Reporter*.

The 2010 nuclear Non-Proliferation Treaty (NPT) Review Conference will meet in New York City from 3–28 May 2010. The conference is part of the formal review process for the Treaty, whereby governments that have ratified the Treaty meet every five years to assess its implementation and negotiate an action plan to carry the Treaty forward. 190 states are parties to the Treaty; only India, Israel, and Pakistan have not joined and North Korea withdrew in 2003.

Previous Review Conferences

The 1995 and 2000 NPT Review Conferences were successful. In 1995, the Review Conference addressed the question of extending the Treaty past its initial 25 years. States parties at the 1995 Review and Extension Conference agreed to a package of decisions: 1. Strengthening the review process and establishing Preparatory Committees to be held between Review Conferences; 2. Adopting principles and objectives for achieving nuclear non-proliferation and disarmament; 3. Extending the Treaty indefinitely; and 4. Adopting a resolution on establishing a weapons of mass destruction free zone in the Middle East. In 2000, states parties at the Review Conference adopted thirteen progressive and systematic steps to implement the nuclear disarmament obligation in the Treaty and the decisions reached at the 1995 Review Conference.

However, in 2005 states parties failed to agree on an outcome document. This was largely because the nuclear armed states that belong to the Treaty—especially France, the United Kingdom, and the United States—emphasized the importance of strengthening non-proliferation efforts and focused on specific cases of actual and suspected non-compliance with the Treaty, while non-nuclear armed states emphasized the importance of implementation of past disarmament obligations. Developments outside the review process also prevented progress, including the failure to bring into force the Comprehensive Test Ban Treaty, the United States' withdrawal from the Anti-Ballistic Missile Treaty, and the lack of implementation of the 1995 NPT's resolution on creating a nuclear weapon free zone in the Middle East. These issues, and many others, have stagnated progress in nuclear disarmament and non-proliferation and must be addressed at the next Review Conference to facilitate the NPT's sustainability over the long term.

Current situation: rhetoric or reality?

Five years later, positions are still polarized between those states

that possess nuclear weapons or benefit from security arrangements with nuclear armed states and those states that do not. While some nuclear armed states now espouse a goal of the complete elimination of nuclear weapons, their rhetoric does not match their policies, which instead aim to create stricter divisions between the nuclear armed and non-nuclear armed states while maintaining their nuclear weapon infrastructure for the long-term.

US President Obama's vision of a nuclear weapon free world appears to provide a unique opportunity to reconcile the interests and agendas of those who prioritize disarmament and those who prioritize non-proliferation. As the first American president to set as his goal the complete elimination of nuclear weapons, Obama has overcome the previously wide gulf between governments' positions, and it would seem that all that needs to be worked out are the details.

However, the US government and several of its allies have adopted new policies on nuclear "disarmament" that focus nearly exclusively on promoting an aggressive campaign for increased non-proliferation obligations for states that do not possess nuclear weapons while indefinitely postponing any concrete measures on disarmament, which is hardly in accordance with the "vision of a nuclear weapon free world". Furthermore, all of the nuclear armed states are currently seeking to modernize their nuclear weapons, providing for their sustainability for decades to come. US Secretary of State Clinton has expressed support for maintaining the nuclear infrastructure needed to sustain a "safe and effective deterrent," explaining that this means "supporting a robust nuclear complex budget in 2011" and "a new Stockpile Management Program that would focus on sustaining capabilities."¹ The UK, China, France, Russia, India, Pakistan, and Israel are also modernizing their nuclear arsenals.

Civil society needs to approach the 2010 Review Conference with as unified message as possible, expressed in as many different ways as possible. While each individual non-governmental organization has its own methods of working and target audience, the most important aspect to a campaign that wants to ensure real progress on disarmament at the next Review Conference should focus on a few simple, unifying themes.

1. A commitment to reduce the role of nuclear weapons in security doctrines. To reduce the role of nuclear weapons in security postures, the value of nuclear weapons has to be diminished. Here, many non-nuclear weapon states have a role to play. Thirty non-nuclear weapon states shelter under the US

1) Hillary Rodham Clinton, Remarks at the United States Institute of Peace, Renaissance Mayflower Hotel, Washington, DC, 21 October 2009, at <http://www.state.gov/secretary/rm/2009a/10/130806.htm>.



Photo: Klas Lundius

Two representatives for the Swedish IPPNW-affiliate, Emma Rosengren and Johannes Eldblom, outside the UN Headquarters during the NPT Preparatory Committee in 2009

nuclear umbrella. Many proponents of retaining nuclear weapons in the United States espouse “extended deterrence” as their justification. Public statements from governments under the US nuclear umbrella stating that they believe US security commitments will still be viable without nuclear weapons would thus remove a key obstacle to deeper reductions in the US nuclear arsenal.

Citizens in NATO countries, Australia, South Korea, and Japan have long advocated for their countries to let go of the cold war nuclear umbrellas and forge more independent and balanced relationships for national, regional, and international security. Now key legislators from all these countries are joining the call. We need to support these efforts and draw attention around the world to the movements against nuclear weapons in these countries. Furthermore, removing nuclear sharing from NATO’s Strategic Concept, combined with removal of nuclear weapons from Europe, would be an important confidence-building measure and would likely facilitate bilateral dialogue that could lead to much deeper cuts in the US and Russian nuclear arsenals.

2. A commitment to cease the modernization and qualitative improvement of nuclear weapon systems. If the nuclear-armed states are committed to maintaining and modernizing their nuclear weapon complexes, how are these states going to agree to give up their nuclear weapons? Trading some arms control agreements or arsenal reduction for modernized nuclear weapons research and production facilities capable of building the nuclear threat anew is not disarmament. If the danger of nuclear war is to be eliminated, ceasing to plan and build for an eternal nuclear threat must come early, not late, in the process. This has to be one of the key things that civil society and other governments really advocate strongly against. Modernization is not acceptable, for any reason.

3. Consideration of the ways and means to start negotiations on an international framework to achieve a nuclear weapon free world. Civil society experts developed a model Nuclear Weapons Convention some years ago as a resource and guide, with suggestions and options for how to prohibit, reduce, and eliminate nuclear weapons safely and securely, while providing insurance against other states acquiring nuclear weapons. This model Convention has been circulated by the Secretary-

General as an official UN document. Civil society should encourage all states parties to the NPT to commit to the negotiation of a Nuclear Weapons Convention in their statements to the NPT and push for it to be included in any final document. We should also ask for formal responses from governments to the model NWC, in order to give us an opportunity to engage in direct dialogue on its substance with as many delegations as possible.

How to engage with the NPT

Many NGO representatives and other members of civil society come to New York for the Review Conference, where they can attend plenary meetings of the NPT conference, hold and attend side events, and interact with government and civil society delegates from all over the world.

However, the most effective advocacy for the NPT and nuclear disarmament can be done from your home.

Educating friends, neighbours, communities, and elected representatives is the most important step toward nuclear disarmament. There are a lot of misconceptions about nuclear weapons and it is up to us to dispel the myths. Use the talking points above, or develop your own, and:

- **Make an appointment with your Foreign Ministry or equivalent.** Urge your Foreign Minister to attend the conference, reminding them that they represent you.
- **Call your diplomatic representatives in New York and Geneva,** to let them know that you are paying attention, and that you are demanding nuclear disarmament.
- **Talk to your parliamentarians.** They have direct access to the decision-making organs of your government. Encourage them to check out the resources from the Parliamentarian Network for Nuclear Non-Proliferation and Disarmament (PNND)².
- **Call your local media.** Publicize your views and your government’s policies, and let them know what’s happening at the Conference on Disarmament and the NPT conferences.
- **Talk to and engage** your friends, family, neighbours, local representatives, community groups, schools, and churches about the issues.
- **Organize demonstrations and seminars** about nuclear disarmament in your town. Join the big march and demonstrations being planned in New York.
- **Subscribe to Reaching Critical Will’s E-News and NPT News in Review** to keep up with what’s happening before and during the Review Conference.³

You can find archived information about previous NPT conferences at www.reachingcriticalwill.org, where you can also keep up with what happens in 2010, find government contact information, and more.

2) <http://www.gsinsitute.org/pnnd/>

3) <http://www.reachingcriticalwill.org/action/listindex.html>

NEW HOPE FOR NUCLEAR DISARMAMENT

Ami Lönnroth



Ami Lönnroth is a Swedish journalist and writer. She has won several journalism awards, among them the Inga Thorsson Media Peace Award in 1990. She was appointed guest professor of practical journalism at the Stockholm University in 1995.

In May of this year there is a chance of taking another important step towards the elimination of nuclear weapons. The review conference for the Non-proliferation Treaty (the NPT) that is held every five years will take place in New York, this time with renewed hope for concrete achievements. In this special issue of the newsletter for the Swedish section of the International Physicians for the Prevention of Nuclear War (IPPNW) you will find a lot of information and important background knowledge. This concerns us all. Without massive public pressure on the political leaders of the world no progress will be made. To quote one of the contributors to this special issue: "We must eliminate the nuclear weapons arsenals before they eliminate us."

Test your nuclear knowledge with the help of this quiz. You will find the answers in the articles. After answering you can also check the key on page 2. But don't cheat! The quiz first!

What do you know? A nuclear quiz

1. In what document do you find this quotation:

"A key challenge is to dispel the perception that outlawing nuclear weapons is a utopian goal."

A In the Nobel Lecture by Barack Obama, Oslo, 10 December 2009

B In Advisory opinion, issued by the International Court of Justice on 8 July 1996

C In the report "Freeing the World of Nuclear, Biological and Chemical Arms" from the Weapons of Mass Destruction Commission, 2006

2. How much of the total energy consumption of the world did the nuclear power plants provide in the year 2005?

A 2,2%

B 16%

C 37%

3. Who said: "Now I am become Death, the destroyer of worlds."

A Dr Mengele

B Robert Oppenheimer

C President Harry Truman

4. Which year did Pakistan do its first atomic bomb test?

A 1964

B 1983

C 1998

5. Which country proposed in 1995 a nuclear-weapon-free corridor from the Baltic Sea to the Black Sea?

A Finland

B Belarus

C Sweden

6. The Nuclear Weapons Convention (NWC) was first introduced in

A 1946

B 1962

C 1997

7. What would the NWC imply?

A A total ban on anti-ballistic nuclear missiles

B The concept of a treaty prohibiting nuclear weapons and the setting of a framework for their elimination

C A commitment by the nuclear powers not to renew their nuclear weapons arsenals

8. The 2010 Non-Proliferation Treaty (NPT) Review Conference will take place in New York 3 – 28 May 2010. How many states are party to the Treaty?

A 13

B 84

C 190

9. What year did the NPT enter into force?

A 1946

B 1970

C 2000

10. Which American president was the first to set as his goal the complete elimination of nuclear weapons?

A Barack Obama

B Gerald Ford

C John F. Kennedy

Key to quiz page 2 bottom.